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THE IDEALS AND THE PRACTICES OF THE MEDICAL PROFESSION.

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The nature and grounds of moral obligation is one of the most important questions that can engage the powers of the human mind; for it is fundamental to the well-being of society.

Our ideals, at times, contrast so strangely with our acts—our precepts with our practices—that we cannot help laughing guiltily at the diagnosis of the Psalmist that "All men are liars."

What a man professes to be is one thing, and what he really is, may be another. Nearly everybody tries to appear better than he is, and to this extent nearly everybody is a pretender.

In these matters physicians are like other people: none are perfect except ourselves, the critics.

What is the criterion of a moral act—the particular feature of the act which enables us to say, on sight, it is right and not wrong and not merely neutral, as between right and wrong?

Without daring to hope to answer this question to the satisfaction of every mind, I shall venture the proposition that a right or moral act is one that conduces to the good of society—society, itself, deciding every question affecting its welfare, through the machinery of the law or otherwise.

Punishment for commission shows an act to be immoral or wrong, in the estimation of the authority deciding the question; and punishment for omission shows the act to be obligatory.

But standards differ in different societies and even under different conditions in the same society.

A Mohammedan woman who exposes her face in public announces herself, thereby, a social outcast; but in tropical islands where conditions of life are primitive and but little clothing is needed, a woman may appear naked without shame.

Similarly, in Christian civilization, women of the most exalted social rank may appear, without hindrance, at ostentatiously pious functions, such as charity balls, so meagrely attired as to stagger less refined and cultured natures; whereas, if they appeared on the street in the same costumes, they would be liable to arrest for disorderly conduct.

In all well-organized communities moral standards of some sort are fixed by law. But many acts tolerated by the law are condemned by popular sentiment; and such condemnation may prove to be a more severe and lasting penalty than legal fine or imprisonment—for it fixes upon the offender the stigma of dishonor.

In relation to such matters, physicians fare the same as others; they stand before their fellows as law-abiding and honorable citizens, or the reverse.

But in addition to these regulating forces which apply alike to all members of society, physicians have another. They have standards of their own. They regard certain acts on the part of their own number as grievous sins which are not regarded as sins at all by the rest of mankind; and through the machinery of their organizations they punish these sins—and, sometimes, with unreasoning severity.

Our profession is called "liberal." And it is liberal—liberal in its educational ideals, liberal to indulgence in its contemplation of the infirmities of human nature and liberal to prodigality in its benevolences. It is liberal in every relation of life—except in its dealings with its own members; but here, on occasions, it is intolerant to the point of big-

otry and resentful to the point of vindictiveness.

It is a fact of familiar knowledge that offences committed by physicians against the public conscience may be easily tolerated by their own organizations; but offences against the technical standards of the organizations themselves—although quite unnoticed by the community at large—are liable to severe and lasting penalties—especially if the culprit be of humble rank and without friends.

Among misdemeanors of this kind we find advertising in the public prints; the exploitation of remarkable cures and operations; the holding of patents on articles used in the practice of medicine; the pretence of possessing an infallible law of cure; and the acceptance by physicians of commissions on their prescriptions, or on needed appliances which they are instrumental in selling, or on the fees of surgeons received for operations on the physician's patients.

Such acts are always small and surreptitiousness makes them mean; but I fail to see in them convincing proof of gross moral obliquity. Most of them are quite compatible with honorable standing in the community; and yet they are stigmatized by the unanimous vote of the organized profession of the country, as "derogatory to professional character" and "incompatible with honorable standing in the profession"—and, hence, are subject to penalty within the organization of the profession itself.

The penalty usually inflicted is ostracism —that is, the offender is refused membership in medical organizations—or, if already a member, he is expelled; and the punishment is of unlimited duration.

On the other hand, when physicians violate the public's standards of morality and thereby bring upon themselves public disrepute, their professional standing, nevertheless, may be safe from challenge in medical organizations. Such discrimination is neither creditable nor defensible.

It is admitted that there are exceptions to this rule and that, now and then, scandalous transgressions of the moral law by physicians, members of medical organizations, are dealt with by those organizations as they deserve; but such exceptions are mere erraticisms determined by the impulse of the hour or the accident of the dominance of a particular influence at a particular meeting, and not by a well-known and well-sustained policy of upholding the honor and dignity of the profession.

Consider such offences as drunkenness, immorality, adultery, abandonment of family, theft, conspiracy to defraud, ribaldry, perjury, or other manifestations of depravity; how many of us have known medical organizations to notice them officially—or, indeed, any other transgressions of personal dignity or honor which were not directly related to the practice of medicine?

All the world knows that physicians are not disposed to condone such misconduct and that still less are they disposed to approve it; and yet it is clear that, collectively, they do not uphold the moral standards with the same degree of rigidity of spinal column as they exhibit, as individuals, in everyday life.

It is not admitted that gross misconduct is common on the part of physicians. Indeed, I know of no reason why the medical profession as a whole should evade comparison with the clerical profession as a whole in regard to such matters.

And yet transgressions of the most commonplace ideals of personal character are painfully familiar to us.

Who does not know of the disgraceful revelries indulged in on railroad trains monopolized by physicians on their way to meetings of the American Medical Association, and of drunkenness and ribaldry on the part of some —even some in high places, on occasions, during the progress of such meetings?

Verily it would appear that a physician may be a regular drunkard, or a regular vulgarian—and, yet, if he be quite proper in relation to technical observances, he may occupy an honorable position in the highest councils of the profession.

It seems quite plain that our moral ideals need expansion.

Obviously, the proper time to inculcate such ideals is during the years of student life. Medical teachers cannot evade respon-

sibility in this respect. Their influence in molding character by the silent influence of example may yield a richer harvest than all the technical information they impart.

In my view, the greatest service the late N. S. Davis rendered the medical profession was not by expounding and disseminating the facts of medical science, grandly though he did it; it was by furnishing an example of strong and blameless character, of noble precepts and noble practices—which has inspired many and many a pupil to strive without ceasing and without wearying for a career as near to that of the exemplar as the limitations and restraints of a smaller nature would allow. A grave sin of omission on the part of this Society has been its failure to do adequate honor to the most illustrious of its founders.

I had rather be a teacher and practitioner like that—able to look out upon the world with unflinching eye, than be president of the American Medical Association, but without the grace of a wholesome influence on my fellows.

And if it be true that the ideals of a large part of our fraternity may be favorably influenced by the example of a single man, what is to be said of the demoralizing effects on those ideals of examples of intemperance, vulgarity, dishonesty or sordidness of character on the part of medical teachers?

The clearest proof of the value of a teacher is that his pupils have wholesome ideals; and his greatest glory is in teaching but little that has to be forgotten, and in furnishing an example of personal fidelity and personal cleanliness that cannot be.

It is gladly admitted, however, that in no direction have professional ideals shown greater improvement of late years than in the administration of medical colleges. The indecencies of the lecture room indulged in, by even eminent teachers, twenty years ago would not be tolerated to-day by any respectable faculty or by any average class of medical students. Even the basis of competition between medical colleges has been greatly elevated. Formerly it was undisguised commercialism, carried, in some quarters, to the extent of employing drummers to proselyte the disaffected students of neighboring colleges and in general characterized by maximum ease of graduation and maximum profits to the institution; but of late the basis of competition has been getting to be more and more sound educational standards, higher requirements, better facilities, and the greatest quantity and best quality of scientific and practical training. Verily the fountains of the medical profession are being purified—and we have no reason to be ashamed of those of our own State.

Our authoritative moral standards are furnished by the American Medical Association and represent the practically unanimous vote of the organized profession of the country. And if it were said that some of these standards were more honored in the breach than in the observance by a few of our number, we might answer that the same statement could be made with equal emphasis in relation to members of religious organizations—but yet insisting that, in each case, the overwhelming majority of both rank and file held true to their colors.

The original Code of Ethics of the Association is one of the grandest essays on morals that ever was written; and if some of its features have outlived their usefulness and new kinds of unprofessionalism have come into vogue which are not covered by its provisions, the composition as a whole must continue to serve as an inspiration to those who are looking for purity and dignity of professional ideals. I believe that the Code has done more for the medical fraternity of this country than all the scientific transactions of the Association combined.

It obligates us, everyone, as does the instrument that has taken its place, to uphold the honor and dignity of our profession; and this one command says everything that can be said about the foundations of a sound character—purity, honesty, fidelity to trust, unselfishness, generosity, courage, and helpfulness to others.

It tells us to do the best we are able, to-day, and to strive without ceasing to do better tomorrow; to maintain a stern, immobile front in the presence of vulgarity, ribaldry and intemperance; to be fair even to gener-

osity to our competing neighbor; to do as we would be done by for a struggling and overborne brother; to forgive as we would be forgiven; and to be known in life as we would be remembered after.

I know of no better way to uphold the honor and dignity of my profession than to uphold my own honor and dignity as a man.

The standing of that profession in popular esteem represents the average standing of its members. Some raise it, some lower it. What is that man doing who is going through life in ignorance of the resources of his art, and without effort to qualify himself for his work? What is he doing who is drunk, or among depraved companions, or in places of evil resort? Is he elevating or degrading his profession?

What is he doing who is polluting his title —and his soul—with secret crime, or has engulfed himself in the noisome mire of social scandal? What is he doing who is belittling and undermining his brother—or out of malice of heart stands in the way of that brother's effort to get into relations of harmony with the organizations of the profession?

Let us answer, each to his own conscience.

The instrument that has taken the place of the Code does not attempt to enforce its precepts; it merely announces them as "principles," and leaves each State and territorial society free to administer them in its own way. Such authority implies the need of machinery in each commonwealth, such as a code of rules to give practical effect to the "Principles;" and our State Society has none.

At present each of our county organizations interprets the "Principles" not only without the co-ordinating influence of a central authority, which would ensure uniformity of interpretation throughout the State, but without formulated rules of its own to serve as a safeguard against erraticism and inconstancy of policy.

These important problems, which are fundamental to professional unity, are being disposed of today in a haphazard manner, subject to the caprices and passions of the hour and to the prejudices of the little coterie that happens to be in power.

There is abundant reason for the opinion that there are hundreds of physicians in our State, now ostracized and unable to secure admission to our State Society, because of the petty personal jealousies and spites which bar their admission to the tributary county organizations, but who, nevertheless, are fully deserving of honorable recognition. Under existing conditions such men have almost no redress. They are being forced, and in some instances by their inferiors, into hostility to the organized profession while eager and deserving to be a part of it.

In view of these considerations, I respectfully recommend that steps be taken at this meeting to prepare an Illinois State Code of Medical Ethics, based upon and in full accord with the Principles of Ethics of the American Medical Association.

Such a code should aim primarily at the harmonization and unification of the entire profession. It should be free from excesses of every kind. It should maintain high moral standards unrelentingly and with impartial favor, as between those of high degree and those of low degree; and it should have due regard for popular opinion in respect to such standards. Concerning wayward brethren, applying for recognition, it should exemplify the proposition that "Charity suffereth long and is kind." It should contemplate their transgressions with indulgence and regard every application for admission to a society as, at once, a plea for pardon, and a pledge of future loyalty; for no man seeks membership in an organization, and still less does he fight for it, without a genuine desire to have it, and a genuine intention to conform to its requirements. A life sentence of ostracism should never be inflicted for mere technical transgressions, nor for any others except such as constitute *prima facie* evidence of depravity of heart.

Such a code should be of an inspiring and uplifting kind; and inasmuch as any person of respectable appearance and behavior, whether he be an honorable doctor, a dishonorable doctor, or no doctor at all, is now welcome to attend the scientific meetings of our State Medical Society, but without participating in the proceedings, so should the code open the door of every constituent county

society to those who are in honest search of medical information.

If there is one concept more deeply rooted than another in the conscience of the profession, it is a sense of inviolable obligation of personal and professional fidelity to the sick. The doctor stands side by side with the minister and priest of God in point of readiness to override weariness of body, and even the certainty of personal danger to serve his fellowman; and this, not for the paltry dollar, but to honor the divinity that is within him—to glorify his calling and demonstrate his right to belong to it.

And yet there is a widespread suspicion that physicians are not above the crime of keeping people sick for purposes of gain.

I do not believe there is a physician on earth—and physicians are surely the most competent judges—who has ever known of such a case; and I do not hesitate to denounce the suspicion as the invention of a mind that is not, itself, unacquainted with ways that are dark.

Physicians err in diagnosis now and then—that is, young physicians do; and sometimes they are unsuccessful in staying the hand of death—for they are but men. But the glory of achievement is dearer to the doctor's heart than any prospect of pecuniary gain.

It must be admitted, however, that here and there a deceitful and mercenary nature is found holding out promises of cure in the case of a malady which he must know is incurable, and this in order to get money from the trusting sick; and then, when the inevitable end is in plain view, he maintains a show of honorable intention by deploring the misfortune of not having been called a little earlier.

It must also be admitted that now and then surgical operations are performed apparently with greater regard for the prospective fee than for that of the patient's welfare; but it is so obvious that a productive surgical reputation must include as its fundamental element the soundest professional integrity, we are forced to believe that examples of seeming sordidness and dishonor are, in most instances, at least, mere exhibitions of bad judgment by a sincere mind.

The acceptance by the family physician from a surgeon of a commission on the fee received for an operation on the physician's patient, or the proffering by the surgeon of a division of fee with the physician furnishing an operative case, is, to me, a comparatively new manifestation of paralysis of the moral sense.

I never could countenance the surreptitiousness and the suggestion of treachery to the patient with which such acts were done; while the ignominious attitude of the physician as the receiver of alms from the surgeon compelled angry denunciation. And yet when my acquaintance with the subject was superficial and I contrasted the emoluments and the comparative ease of life of the established surgeon with the unending drudgery and pitiful compensation of the average family physician, I could not help feeling that there was injustice somewhere, and that, inasmuch as the physician feeds the surgeon, the surgeon should make adequate return—not as a benevolence, or as a bribe, but as a matter of right, and in broad daylight, and with the full knowledge of the patient.

Now, however, I think it should not be done at all; for I have come to know of some of the intolerable abuses which are inseparable from such a policy—and I can think of others.

The physician should stand on his own feet. If he receives inadequate compensation, it is his own fault. But if the surgeon may charge, with unquestioned propriety, for the responsibility involved in the performance of an operation, I know of no reason why the physician who assumes the responsibility of deciding that the operation shall be done may not, with equal propriety, charge for that responsibility. The failure of operations undertaken on my advice has more than once done much greater injury to my reputation than it has to that of the operators, although possibly in one or two instances the failure may have been due to the operator's own shortcomings; and, consequently of late years, I have refused to admit that the surgeon is the only person deserving of consideration in

such matters. I, too, charge for responsibility.

To the honor of the surgeons, be it said, it was they who exposed and denounced the dangerous and unbecoming practice; and to the honor of the united medical profession of the country be it added, the practice is now universally condemned and, of course, abandoned by all self-respecting practitioners.

There is one of our ideals that seems to be quite beyond the capacity of appreciation of the world at large; it is the one which requires us to protect the public health without a penny of compensation. This is done by discovering the causes of epidemic and other infectious diseases and their modes of action—and thereafter preventing the accession of such causes to the people or rendering the people immune to their influence—and thus arresting the process of propagation.

Achievements in this direction, prevention, are among the greatest glories of the profession. I know of no other body of men on earth whose most serious and important business is the destruction of their own means of livelihood; and this physicians are doing as fast as they can—to the honor of their profession and the benefit of all mankind.

Allow me to refer to some of the activities of this kind on the part of the medical organizations of our own State at the present time:

There is the Tuberculosis Committee organized in 1903, and headed by Klebs, Evans, Billings, Alice Hamilton, Webster, Robison, and others, which has done a stupenduous amount of work among the tuberculous poor of Chicago, without charge, and maintained a crusade of education of the public in regard to the modes of propagation and prevention of the disease, through the agency of lectures delivered at schools, social settlements, community centers and before clubs, labor organizations—and, indeed, wherever an opening could be found.

In like manner the Chicago Medical Society has been maintaining, since last fall, a course of weekly free lectures for the instruction of the masses in matters pertaining to the protection of the individual and the public health.

Similarly, our own State Medical Society has furnished lecturers and will continue to do so, let us hope, to Chautauqua Assemblies, clubs and societies, and other gatherings of people in various parts of the State, who have expounded problems of vital interest to the well-being of the individual, and to that of our great commonwealth.

Then contemplate the self-sacrificing labors of the chairman of the Tuberculosis Committee of this Society, J. W. Pettit, in establishing and maintaining a tuberculosis camp near Ottawa—not only without a penny of profit to himself, but at a pecuniary loss, in order to prove, as he has proved, that tuberculosis in its early stage, can be cured on our own soil about as readily as it can be done elsewhere—and all this in order that the organized profession of the State might have a solid foundation for an application to the legislature to establish and maintain at public expense, sanitaria in various parts of the State, primarily, for the humane care of the tuberculous poor, and, secondarily, to prevent them from conveying the disease to other persons. It is estimated that this self-sacrificing work, so auspiciously begun, will, if continued with intelligence year after year, in the course of a single decade effect a saving to the State of four thousand to six thousand human lives annually, to say nothing of the prevention of an incalculable amount of human misery and woe. And this is being done gratuitously.

In the same connection I cannot refrain from acknowledging the devoted and efficient services of the President and Secretary of our State Board of Health, and the State Association for the Prevention of Tuberculosis in co-operating with the committee of this Society in the labors of the year. Indeed, without that co-operation the committee could have accomplished but little beyond the maintenance of the tuberculosis camp and the education of a small part of the population of the State.

The most brilliant and beneficient service of this kind in the history of the western hemisphere is that rendered by the late Dr. Walter Reed and his associates in discovering the modes of the propagation and prevention of yellow fever—the most virulent and de-

structive of our indigenous pestilences. For a hundred and fifty years it has been carried almost annually from its breeding places in the West Indies into our own country and to foreign lands, and often with the effect of starting devastating epidemics. In the year 1878 the financial loss occasioned by its prevalence in the Mississippi Valley exceeded fifteen million dollars—to say nothing of the appalling loss of life. On more than one occasion it has brought disaster to military expeditions. During the French campaign in Hayti in 1802 it destroyed in a single season 22,000 soldiers out of an army of 25,000; and the persistent attempts of Spain to subjugate Cuba were frustrated by its deadliness.

But when the United States army took possession of the Spanish Islands, its medical officers appointed a commission of four physicians, headed by Dr. Walter Reed, to investigate the cause of the fever and to institute measures to limit its spread.

Two of the number contracted the malady, and one died of it.

The commission discovered that it was propagated by mosquitoes of a particular variety (stegomyia fasciata), which sucked the poisoned blood of the fever patients into their own bodies and after it had been elaborated in their bodies for twelve or more days they injected it into the bodies of other susceptible human beings and gave them the disease.

The process of prevention consists of destroying the breeding places of the insects and the insects themselves, and of enclosing the fever patients in an impenetrable netting so as to make it impossible for mosquitoes to convey the infection from them to other persons.

Think of the results—accomplished and prospective. Not a single case of yellow fever has originated in Havana—the hot-bed of the pestilence—since 1901. Compute the annual saving of life and treasure. Estimate the time it will take to make yellow fever a mere item of history; and then remember that the beneficent results of the labors of that little commission will continue as long as the human race endures. I salute the dead and make obeisance to the living in token of my pride and reverence; may their names and services be embalmed in the history of medicine and serve as an inspiration to their successors forever and forevermore.

But such achievements are far beyond the reach of popular appreciation. They are not regarded in our country as proof of greatness or as the basis of a valid claim for national gratitude and honor.

Halls of fame may not be made small and common by using them to perpetuate the memory of the victories of medical science. They are made for poets and novelists, painters and sculptors, musicians and educators, soldiers and statesmen. But who among you will say that the work of Dr. Walter Reed does not represent a greater wealth of service to mankind than has been rendered by all the poets and novelists and sculptors and painters that have ever lived?

When I think of the exalted and unfailing fidelity to the public weal that has characterized the attitude of the medical profession from the earliest periods of authentic history to the present time; and when I remember that on every occasion of epidemics of pestilence which have devastated the earth, physicians were always found at their posts of duty, nor thought it sacrifice to die in the service of their fellowmen, I feel ashamed of mentioning their wee small faults which, after all, are but manifestations of the imperfections of character common to all mankind.

I have read of the defense of Thermopylae; of the Light Brigade at Balaklava; of the Old Guard at Waterloo.

I have heard of the Rock of Chickamauga; of the splendor of Pickett's charge at Gettysburg; and of all the fierce glory of the Heights of San Juan.

A vision of contending armies comes before me now. I see the serried columns gathering for assault. I hear the thundering of cannon, the roar of musketry, the swish of sabre, the high-pitched song of searching bullet. I see rivers of blood and horrors of mutilation. I hear the yells of challenge and defiance, the

shrieks of agony, the curses of hate and the sickening gasps of expiring life.

I see the rushing, charging columns halt; they waver, they recoil;—but there! impelled by a resistless impulse to do or die, they dash on and on with gathering fury and remorseless vengeance, till they reach and scale the enemy's ramparts, now slippery with blood, while screams of fierce triumph are mingled with the wails of faintness and despair, and angels look pitying on.

And we laugh and cry in gladness o'er the glories of that day!

Aye, adulation to the living, immortality to the mangled dead, and tears for the desolate homes of widows and orphans.

Well may a grateful country commemorate such deeds in statues of bronze and shafts of granite. Well may it set apart a day in every year to decorate the graves of the fallen and from the story of their devotion and sacrifice derive ennobling inspiration for generations yet unborn.

But do you not know that again and again, and yet again, more lives have been lost in a single epidemic of cholera than have been destroyed in all the battles and in all the deeds of violence and in all the accidents by sea and by land of a century?

When the breath of pestilence withers a continent and with swift unsparing malignancy decimates a nation: It is then that brave men, who, in the shock of battle, can defy death or in the defense of their homes 'gainst mortal foe can die with a smile upon their lips, turn sick and weak with fear and flee to places of fancied security.

When the whir of machinery is stilled and the avenues of commerce are deserted; when the palaces of trade are locked and barred and boarded and abandoned; when theology has been supplanted by a religion of personal service and places of amusement are regarded with aversion or disgust; when laughter is lost and forgotten and the very air is instinct with desolation and despair; when there are not enough well to nurse the sick and not enough living to bury the dead; even then has the remnant of the medical profession been found moving shoulder to shoulder with the thoughts and impulses of a single man on errands of Christ-kissed purpose and heroic endeavor.

No thought of courage there. No sounding words of praise or gratitude. No line on printed page to note a hero's death, nor flower nor stone to mark his final resting-place. The danger over, the service is forgotten, and the doctor's neglected clay crumbles to dust unhonored and unsung, while the world goes on laughing and weeping as before.

But there, away off beyond the expanse of the starlit sky, where faithful spirits all are wafted and do find repose—where records of motives are kept as well as of deeds—of noble efforts and sacrifices as well as of human frailties—there is his monument more enduring than any of earth's treasures in bronze or marble, for his story is written in the book of God.

WHAT WE MUST LEARN AND UNLEARN IN THE TREATMENT OF TUBERCULOSIS.

J. W. PETTIT, M. D., OTTAWA.

During the past twenty years there has been a steady development of confidence in the open air method of treating pulmonary tuberculosis. The wonderful success which has attended this method of treatment in all countries irrespective of temperature, altitude, dryness, humidity or other special climatic conditions has demonstrated its immense value as a curative agency. We have passed through the period of skepticism and have entered upon an era of enthusiasm and activity. This makes it necessary for us to adjust our ideas and methods to the new order of things.

The anti-tuberculous movement which is now sweeping over the civilized world is destined to do much good by creating an interest in a subject which has hitherto been treated most indifferently. But a movement of this kind to be of lasting benefit must have a more substantial basis than mere enthusiasm and activity. If our efforts are not based upon the tangible foundation of results the movement so successfully begun "will vanish like a castle in the air." This should not, and will

not be the result if we keep in mind that the successful application of a therapeutic principle depends quite as much upon correct methods as upon the correctness of the principle itself. We have much to unlearn, as well as to learn in the modern treatment of tuberculosis, if we would save it from falling into the undeserved disrepute which must follow the present indifference to methods, and should exercise more care in holding out the inducement that the range of its application is wider than is warranted by the facts of experience. Now is the time to get our bearings if we would avoid the pitfalls to which a wrong beginning inevitably leads.

It is not my purpose in the present address to attempt to cover the whole subject of the treatment of tuberculosis, but rather to call especial attention to those features of the problem which are either ignored, misunderstood or not sufficiently emphasized.

First as to climate.—It is now a well established fact that climate is an unimportant factor in the treatment of tuberculosis. It cannot be gainsaid that treatment can be conducted in certain climates more comfortably than in others, but tuberculosis can be cured in all climates. The beneficial results which have been derived from certain supposedly favorable climates are not due to atmospheric conditions, but simply to the fact that patients frequenting these places have lived out of doors. We now know that it is life in the open air, and not some peculiar attributes of climate which can only be found in certain favored localities. The abuse of climatic treatment can only be excused on the plea that no other method was known that promised relief. Patients have been indiscriminately sent to California, Colorado, Arizona and New Mexico, with only a vague idea as to what they should do when they got there. The result has been that these supposedly favored localities have been filled with a horde of pitiful wrecks of humanity who should never have been allowed, much less encouraged by their physicians, to leave their homes.

Because the medical fraternity have learned the utter futility of drugs in the treatment of tuberculosis, our responsibility has not ceased. We must guide our patients where we do not treat them. We should not attempt to advise a change of climate, or the adoption of a given course of treatment until we are in full possession of such facts as will enable us to guide our patients aright. We have not discharged our duty when we have told him drugs are of no avail and leave him to his own resources, or, as is usually the case, tell him to go west. Such advice generally means to the person of slender purse that after a long and expensive journey he finds himself forced to contribute to his own support when work of any kind is contra-indicated. He finds himself condemned to board at cheap restaurants, and to live in cheap lodging houses where he is still further exposed to infection. Add to these discouragements, the inevitable homesickness, worry, loneliness, lack of medical direction and of what possible avail can climate be under such circumstances? This is the picture presented by that great army of consumptives whom we have been indiscriminately sending west. A prominent charity worker has investigated the conditions in several typical health-seekers towns, and as a result calls on the medical profession throughout the country to do all it can to prevent the "inexcusable stupidity which sends these people hither to die, friendless and alone." He states that in Phoenix, Arizona, twenty-five per cent of the population are health seekers, and of this number four-fifths should never have been allowed to leave home. The hospitals, sanatoria and poor houses are filled with dying consumptives. Public and private charity is taxed to the uttermost, and still cannot meet the demands made upon them. No wonder these localities are seriously considering the question of legislating against us. We have no moral right to burden them with the care of our consumptives. Fortunately the discovery that these patients can be safely treated at home comes at a time when they can be forced back upon us, not only without detriment, but to their great advantage. It has been demonstrated that tuberculosis can be cured in Illinois. It is also a well established fact that where patients recover they must ever afterwards continue to live under sub-

stantially the same climatic conditions as those under which the cure is effected. It is a matter of common experience, so common that there are few exceptions to the rule, that patients cured in the more favorable climates relapse on their return to this climate.

We have also made a mistake in regarding fresh air as the *sine qua non* in the treatment of tuberculosis. Nutritious food, regulated rest and exercise are each of essential importance. Highly nutritious and properly regulated diet is, if any difference, even more essential than fresh air. This fact is not generally recognized, and where it is, is not sufficiently emphasized. It will not do to leave the patient to his own discretion in anything, and especially in the matter of diet. This must be selected for him and precautions taken that the patient shall not eat such food as a capricious appetite will almost certainly lead him to select. Since the whole question is one of nutrition it is essential that the patient be fed, not what his appetite may suggest, but a balanced ration which contains from day to day all the elements of nutrition of which he so much stands in need. In order to accomplish this the one who prepares his food should have a scientific knowledge of food values. This leads me to suggest that domestic science as taught in many of our technical schools should occupy a conspicuous place in the treatment of this disease.

In the housing of tuberculosis patients we have yet much to learn. It was natural that sanatoria for the treatment of tuberculosis should at first copy the usual methods of hospital construction, hence there has risen a too expensive ideal. Our aim should be to supply the maximum amount of pure air at a minimum expense. In favorable climates the tent has been largely and successfully used. At first thought it may seem incredible that patients can be comfortably housed in a tent at a temperature twenty-five degrees below zero. Yet this is just what the patients at the Ottawa Tent Colony have done during the past winter, one of the most severe we have experienced in the northwest for many years.

Inasmuch as no systematic attempt had ever been made to treat tuberculosis in Illinois by modern methods the State Medical Society established a Tent Colony at Ottawa to demonstrate that this disease can be as successfully treated here as elsewhere. The demonstration was only intended to cover a period of a few months, hence it was desirable that the equipment be inexpensive. To this end the tent was adopted. It was not believed at the time that this method would be feasible in cold weather or would be accepted by the patients even if it were; therefore a large building was secured where they could be housed during the winter. It was expected that as cold weather came on, patients would move into this building at their pleasure. In order to keep them out as long as possible each tent was supplied with an oil stove, which was expected to supply only sufficient warmth for chilly, or moderately cold weather. It was anticipated that as the weather grew colder the patients would go indoors. But they did not; even the most delicate women remaining in their tents. Instead of suffering from the cold they were comfortable and rather enjoyed the experience. Several of those who were accustomed to living in frame houses declared they would have been less comfortable had they been at home. Even new arrivals during the extremely cold weather insisted upon going into tents. Their action is the more remarkable when we take into account that many, if not most of them, had come from homes where it was difficult to drive them away from the vitiated and super-heated atmosphere of badly ventilated houses.

Since it has been demonstrated that the tent is practicable in cold climates it should be used more extensively. It fulfils the conditions most perfectly from a scientific standpoint. From an economic standpoint the tent commends itself. It costs from four to five hundred dollars to house a patient in an ordinary building according to the plan usually followed in hospital construction. A tent with necessary furnishings need not cost more than one-tenth this sum. To be consistent we must keep our patients out of doors, not part of the time, but all the time. In no other way can this be done so easily and satisfactorily as in a tent. It is as irrational as it is

expensive to house tuberculous patients in substantial buildings. The experience at the Ottawa Tent Colony proves conclusively that the use of the tent in the treatment of tuberculosis is applicable in any climate.

Any method by which the patient can be induced to spend the most time out doors is to be warmly commended. There is a general impression that with the doors and windows open they enjoy all the advantages of proper ventilation, but this is not correct. By far the best way is to have the patient live in a tent where he can have all the comforts of the home and be practically out of doors the year round. Tent life when governed by well selected rules, becomes thoroughly enjoyable and patients who at first have exaggerated ideas of its inconveniences, become loath to leave it.

Another practical point and one which is essential to success, is the importance of an early diagnosis. The profession must awaken to a realization of the fact that if the disease is not diagnosed until it is well advanced, as is now too often the case, the time when a cure could have been effected may have passed. Many a patient's life is sacrificed because a diagnosis is not made early enough for him to avail himself of the advantages of treatment. The curability of tuberculosis is well established. Scepticism upon this subject must go down before ocular demonstration. It must be understood, however, that a cure depends upon an early diagnosis. Since it is a wasting disease, it is self evident that the earlier a diagnosis is made the more certainly can a cure be effected. While it is true that patients in all stages of the disease may be cured, it is equally true that the chances for recovery diminish very rapidly as the disease progresses. As physicians we should be on the alert to recognize the disease early, and if after the most painstaking efforts we fail to make a diagnosis and still have reason to suspect it, we should give the patient and not the disease the benefit of the doubt by promptly placing him under treatment. The experience at the Ottawa Tent Colony thus far has been that one-third of the patients sent to us for treatment have been too far advanced to secure permanent results. Many of the advanced cases have improved, but it is doubtful if this improvement will be permanent. Every incipient case has improved rapidly, and as we believe permanently. It must be understood and cannot be too strongly emphasized that when we announce to the world that tuberculosis can be cured, that to insure success the treatment must be begun in the early stages of the disease. When the disease has advanced to that stage where it is apparent to the most casual observer that the person has tuberculosis it may be too late to effect a cure. I dwell upon this point at considerable length for the reason that the public jumped to the conclusion that tuberculosis can be cured in all stages and that all that is necessary to insure a cure is for a patient to enter a sanatorium, submit to treatment and favorable results will certainly follow. This misconception will inevitably lead to disappointment and the failures, which follow such a course will result in discrediting the treatment. Let it be distinctly understood that the modern treatment of tuberculosis is not a cure all, but that fully eighty or ninety per cent of incipient cases can be cured if the treatment is begun early and properly carried out. Few propositions in medicine are more inviting than the treatment of an incipient case of tuberculosis. Few more discouraging after the disease is well advanced. The important duty of medical men is to familiarize themselves with the first symptoms of the disease in order that they may recognize it early and promptly place their patients under treatment. Such a course not only insures a larger percentage of cures, but shortens the time and lessens the expense, thus bringing relief to that large number to whom this difference in time and money frequently means life or death.

"In the warfare against tuberculosis the man behind the gun is the general practitioner. The battle cannot be won unless he takes an active, aggressive, accurate part. That he is not always alert must be attributed in part to the carelessness which a routine life readily engenders, and partly to a failure to grasp the situation in individual cases. The two points to be impressed upon him are

first, that an early recognition of the disease can only come from better methods of practice and greater attention to the art of diagnosis. The insidiousness of the onset, the protean modes of advance, and the masked features of even serious cases should never be forgotten." (Osler.)

Upon the family physician rests this responsibility. He must accept it whether he will or not. Fortunately the difficulties of the situation are not very great. A full recognition of our duty is the real obstacle to overcome.

We must also recognize the limitations of the modern treatment of tuberculosis, and be more careful in sending patients to sanatoria for treatment. While it is true that many advanced cases are benefitted and some are cured, the difficulties attending the treatment of such cases in time, expense, etc., makes the results very uncertain and unsatisfactory. Every patient who returns from a sanatorium will aid or injure the cause in proportion to the extent to which he has been benefitted. This makes it necessary that we should be careful in the selection of patients for treatment, especially just at present when public confidence is not firmly established.

We must also be cautious in estimating a cure. Tuberculosis is not only insidious in its approach, but deceptive in its appearance of recovery. In most diseases normal weight, temperature, pulse, appetite, muscular development, bouyancy of spirits, etc., may safely be regarded as evidences of a return to health. This, however, is not true of consumption. This fact not only leads to a misunderstanding of what constitutes a cure but makes the tuberculous patient when he becomes convalescent very difficult to control. There are two crises in the history of every patient. The first is to induce him to accept the treatment. This usually is not difficult. The second crisis is when he becomes convalescent. One of the greatest difficulties is to induce patients to continue treatment long enough to receive permanent benefit. Patients who make the most decided improvement are the most difficult to retain. The patient who improves rapidly is soon restored to his normal weight and feels perfectly well, can see no reason for remaining in a sanatorium where so far as he can judge the treatment is so simple he could carry it out at home. He cannot distinguish between his feelings and his actual condition, becomes impatient of restraint and notwithstanding the earnest entreaties and warnings of his medical adviser discontinues treatment just when recovery is assured but not yet complete. Next to inability to cure the advanced cases the failure to hold the curable is the most discouraging.

This treatment is on trial before the public. It will be judged by its permanent results. Every patient who makes substantial improvement, but abandons treatment before he is fully recovered, returns to his home proclaiming that he is cured, and relapses, will be cited as a failure. The public may not know that the failure is not due to the treatment, but to the perversity of the patient, who insists he is well simply because he looks and feels well. Care on the part of physicians who recommend the treatment will tend to obviate this unfortunate contingency.

The characteristic optimism of the tuberculous patient, while in some respects advantageous, has a decided tendency to lure him to his own destruction. Many a patient for a time makes a good fight, but on account of over-confidence when he becomes convalescent, what was an assured victory is turned to a sudden defeat. "When really ill he is brave. When the battle is almost won, he is brave no longer." This is a very practical phase of the problem which must be ignored.

There is a prevailing impression that because the treatment consists of the use of such commonplace and familiar agencies as fresh air, nutritious food and rest or exercise that it is easy of application. The treatment is neither simple nor easy. While the agencies used to effect a cure are familiar they require skill in their application on the part of the physician, and courage, persistence and intelligent co-operation on the part of the patient. Little or no medicine is necessary. This fact however, does not eliminate the physician. His services are just as essential as in the treatment of any other disease. It is not

medical *treatment* as ordinarily understood that is required, but medical *supervision.*

A word of caution with regard to home treatment. Since the agencies are so simple, it would seem there would be no difficulty in carrying out the treatment at home. Experience teaches that as a rule it cannot. First, because so many cases occur in families where it is not possible to make the application. Second, where patients are more favorably situated it is impracticable for the reason that the treatment has not been accepted by the laity with that degree of confidence so essential to its application. A third reason may be given that the methods are not well understood by the average physician, and where they are they consume so much time and energy that it is hardly possible for the busy physician to get the time from his other work to devote to the few patients whom he may have under his care. In other words it is practical rather than theoretical reasons why the treatment cannot be applied at home. The time may and probably will come when this can be done, but not until the principles of treatment are universally accepted and the methods familiar to all. The education of the public and profession must come through sanatoria. These will be training schools which will be centers of influence in propagating the new doctrine, and its methods; therefore it will be wise for us to devote our energies for the present at least, to the establishment of sanatoria, rather than take the risk of bringing the treatment into disrepute by the many failures which must result through lack of experience on the part of physicians, patients and friends. The conditions seem to be analogous to the boy who attempts to secure an education at home, surrounded by the distractions of home life. He can do it if he has more than the usual amount of persistence and is not too easily discouraged. In other words, the exceptional person may secure an education in this way, but the rule is that those who attempt it will fail. So it is with the attempt to cure tuberculosis at the patient's home and for substantially the same reasons. The difficulty lies in the fact that in either case the other members of the family must conform to the life of the student or patient, a thing rarely ever practicable and frequently not even possible. Even were it possible to so order the affairs of the family as to conform to the interests of the patient he would still lack the moral support of others afflicted as he is. The soldier who can touch elbows with his comrades is braver and more efficient than the lone sentinel who is left to fight alone.

The success of the modern treatment of tuberculosis does not depend altogether upon what can be done, but what patients will accept. It is not enough to place before these patients an opportunity to get well. They must accept what is offered. Otherwise it is useless. Many of them are apathetic, most of them whimsical and impatient of restraint. This makes the task of carrying out a long course of treatment always difficult and too frequently disappointing. This may be assigned as an additional reason why home treatment will so frequently fail under present conditions. Cornet has summarized this whole question in the statement that, "Without the co-operation of the patient the physician can do nothing." This makes it necessary to inform him that he has tuberculosis.

It is a mistaken kindness to withhold from a patient the true nature of his condition. It is not possible to properly treat him unless he is aware of the nature and gravity of his disease. Rules made for his guidance will not be obeyed unless he knows what is the matter with him, and that their violation will be followed by disastrous results. No harm can come from telling a patient that he has tuberculosis, and explaining to him that it means a persistent, continuous struggle for his existence for a term of years. He will soon recognize that his welfare depends largely upon his own efforts and will become a good patient, where otherwise he would be but an indifferent one. Unless he understands this fully, as soon as he begins to improve he is likely to stop treatment, thereby greatly lessening his chances of recovery. Unremitting attention is demanded of both patient and physician as to the mode of life to be followed in these cases. It is easily possible for a patient unwittingly to do himself

more damage in one day than can be repaired in a month. We should impress upon these patients the seriousness of their condition; the almost certain destruction that awaits them, if they do not intelligently and persistently cope with the grim destroyer; that the open air and dietetic treatment is the only method known to medical science by which consumption can be cured; that under present conditions the only place where this can be done with any degree of certainty is in sanatoria, and there only by remaining several months; that to take the treatment of his case in his own hands is to invite almost certain disaster; that the treatment is neither simple nor easy; that courage and fortitude are quite as essential as fresh air and good food. If these suggestions are complied with, the patient will enter upon the treatment with a full understanding of what is expected of him and the battle is more than half won when it is only just begun. We must fully impress him with the fact that consumption is a chronic disease and that the time required even in the incipient stage will severely tax the courage, patience and purse of the average individual.

While the difficulties in the application of the modern treatment of tuberculosis are many, there is nothing in the situation to discourage even the faint hearted. A few years ago we stood face to face with this terrible scourge, hopeless and helpless. Today we know the cause of tuberculosis and how to cure it. The future is bright with hope. All that is needed now to triumph over the "great white plague" is an intelligent and painstaking application of well established scientific principles.

HIGH FREQUENCY IN INSOMNIA.

W. F. SOMERVILLE, M. A., B. SC., M. D., F. P. P. S., GLASGOW, SCOTLAND.

Insomnia is a result more of city than of country life and it seems to be ever increasing. I fancy it is a trouble with which our forefathers were little acquainted, but in the present day with the rush and bustle in the daily life of the professional man, of the merchant, the student and the "society lady" we, as doctors, are frequently called upon to prescribe for sleeplessness. Now, I have no hesitation in saying, after over 20 years of general practice, that, quite without the use of drugs, we have at our hand a most excellent means, not only of calming the nerves of our overtaxed patients, but also of giving them a refreshing and dreamless sleep. I refer to the use of High Frequency Currents. It is not to be supposed that electricity immediately after a single application is competent to produce a ready and prolonged sleep as we are accustomed to experience after sulphonal, trional and other hypnotics have been administered, nor can we hope for electricity to obliterate pain as we know that opium and its preparations are capable of doing, but after abundant use of High Frequency Currents during a period of nearly three years, I have every confidence in asserting that following a course of treatment varying from twelve to fifty applications, it is possible to give relief emphatically and permanently to a sufferer from sleeplessness. Further, though we lack in electricity the immediate benefit which follows the administration of one of the ordinary hypnotics, yet by way of compensation we can produce sleep without any deleterious effects. It is well known that hypnotics to produce habitual sleep have to be continually prescribed, sometimes in increasing doses, and further that no hypnotic can be taken for any length of time without giving rise to unpleasant consequences. By electricity on the other hand, the sleep that is produced resembles that of childhood, and it is unaccompanied by any headache, disturbance of digestion, constipation or nervousness, all of which symptoms we are accustomed to meet with in those for whom the usual sleep-producing drugs have been prescribed. The sleep which electricity gives rise to is not only sound but decidedly refreshing, and still further, not only do the High Frequency Currents induce sleep, but as we who employ this form of electricity are well aware, they improve the tone of the system to such an extent that our

patients are better fitted to resist and to overcome the evil influence of professional, business, educational or domestic cares and anxieties.

The explanation of the influence of High Frequency Currents in producing sleep in the human subject I am not prepared to state, indeed I question if any of us can give a satisfactory reason how these currents exercise their hypnotic properties. Still, when we remember that the High Frequency Currents act on the vaso-motor system and give rise by inhibition to dilatation of the blood vessels throughout the body, a condition clearly manifested in the sensation of warmth experienced for several hours in the extremities and on the surface of the body generally, one is led to conclude that a corresponding anaemia of brain is caused which may produce sleep.

I may now refer to my own experience in the treatment of insomnia. While comparatively few patients have sought my assistance suffering purely from sleeplessness, a great many who have come to me for treatment for various diseases have mentioned that sleeplessness was a prominent feature of their case. I think I may safely say that in three cases only have I met with complete failure; all the others have benefitted to a greater or less degree. Though in the earlier part of this paper I contrasted the suddenness of the effect of a dose of trional with electricity in respect to the prompt action of the drug, yet I am frequently told by patients who present themselves for High Frequency treatment suffering from various ailments, that after the first visit they have been so overcome with sleep that they have had to lie down for one or two hours in the afternoon. The more severe cases of insomnia, however, do not as a rule respond till they have had about three weeks daily treatment. One explanation I may give why I failed in the cases above referred to. At that time I possessed an apparatus which was capable of giving an output of only 300 milliampères. Since I have employed M. Gaiffe's new high frequency installation with which I can obtain a greatly increased output, much better results have been attained.

By way of illustrating what I have already said, let me offer you a few notes of four cases. The first of these is myself. Three years ago I suffered considerably from sleeplessness, and even during my summer holiday I awoke so early in the morning that I was in the habit in order to overcome my restlessness, of going out fishing even before the early worm had appeared, nor could I obtain the usual afternoon nap that one enjoys in holiday time, after an early dinner. No sooner, however, did I commence dealing with the High Frequency Currents in September than sleep returned to me, and I learned to fully appreciate, possibly for the first time, the blessing of a good night's rest. Since then sleep and I are well acquainted; indeed the union is now so profound that the night bell has ceased to disturb it, and I rise in the morning thoroughly refreshed.

The second case is that of a medical friend who has kindly furnished me with notes of his case, and these by his permission I now give you.

"From the middle of July last year until well on into January of the present one, it was my misfortune to be subjected to certain very painful experiences which caused me acute mental distress and so haunted my thought that it was with great difficulty that I attended to my professional work. By the beginning of September I was troubled with insomnia. I almost invariably lay awake until 5 or 5:30 a. m., when I fell into a troubled dose from which I awoke at 6, 6:30 or at latest 7 a. m.

In spite of this state of matters I would not take any hypnotic; and I consequently began to feel very exhausted and unfit for work. A crisis however was reached in January of this year when for more than seventy consecutive hours I was unable to get sleep for even a single minute. At the end of that period I felt as though my reason would give way, and it was with almost superhuman effort that I compelled myself to go through the routine of my daily duties. In addition to this feeling of exhaustion I

had a severe pain in the vertical region of the head, and it was with difficulty that I could concentrate my thoughts upon any subject . I well remember that it was on the third day after the insomnia had become absolute that I happened to meet you and to mention to you the deplorable condition in which I found myself. You urged me to try the effect of the electrical treatment and to this course I gladly consented. That same day I had my first seance. I had then made up my mind to use trional, but at your request abstained from taking any hypnotic whatsoever. On the night after my first sitting, I slept for about half an hour, and felt a distinct diminution in the nervous tension from which I suffered. The sittings were continued daily for a time. On the second night I slept for over an hour. By the third night I had three hours sleep, and the agonizing vertical pain had practically disappeared. Very rapidly my period of sleep became extended until at the end of a week or ten days I was able to get every night from six to seven hours of refreshing sleep.

Besides the return of sleep, however, I experienced a feeling of well-being that was indescribably enjoyable; and my capacity for, and enjoyment in, my work returned to the fullest extent. Altogether I had some thirty sittings, and from the third or fourth of these up till now (five weeks since they were discontinued) I have slept soundly and have been in excellent health and mentally vigorous. On one occasion about ten days ago I had a sleepless night, but a special circumstance was to my mind accountable for the occurrence, and I have had no return of the condition.

"Post hoc, propter hoc," is a conclusion to which we are often very apt to come in error; but I am convinced that in my case the connection between the treatment and the improved condition (I should rather say the absolutely cured condition) is too marked to allow of any doubt as to the effect being the result of the only cause. I cannot be too grateful for the benefit I have received at your hands."

The third case is that of a lady 40 years of age, the widow of a doctor. She was sent to me by Dr. Alex Thompson of Glasgow in September, 1904, suffering from Alopecia Areata of three months' duration. She was a very nervous lady and suffered from pronounced insomnia which was only overcome by means of very frequent doses of bromide of potassium. I may mention in passing that after receiving about 50 applications of High Frequency, both generally and locally, the Alopecia was found to have disappeared and strong hair, which however, at first was pure white, was noticed growing from the bald patches. Since then the new hair is becoming black, like the rest of the hair. But what I wish now particularly to note is that the insomnia to which she was such a martyr has completely gone. I met her a fortnight ago, four months after treatment was discontinued, when I was delighted to learn that notwithstanding bereavement and domestic troubles, she was still enjoying excellent sleep at nights.

A fourth case I may now describe to you which illustrates the value of the combining Weir-Mitchell treatment including isolation, feeding and massage with High Frequency.

The patient, a married lady of about 40 years of age, was sent to me by Dr. Crawford Renton in August, 1904. Ten years ago she began to suffer from sleeplessness, produced, as she told me by "boredom." She was unfortunately at that time advised to try the effects of stimulants which produced such disastrous results that she had to undergo a special course of treatment. For a period of three years she kept all right, but on the return of her insomnia she was again led to seek consolation in stimulants. The state of the lady now became worse than ever. Her intemperance developed to such an extent that for a period of two years previous to my seeing her she was in the habit of imbibing 24 oz. of whisky daily. The statement is almost incredible, and indeed perhaps it would be wise to accept it with a reservation. At any rate she was brought to my nursing home in a condition of collapse bordering on coma; the heart's action was feeble and irregular; digestion was seriously impaired

and altogether she was a miserable wreck. The greatest care and attention were required and a nurse was constantly in attendance lest the acute depression from which she suffered might give rise to unpleasant results. Strychnine was administered hypodermically at suitable intervals both during the day and at night. Stimulants had at first to be permitted but they were very rapidly diminished, and for a night or two trional had to be administered. The heart's action was so irregular and feeble that it was not deemed advisable at first to permit the patient to come down stairs for electrical treatment, but on the fifth day after admission electrical treatment was commenced and the trional was discontinued. The High Frequency Currents had an almost immediate effect in producing sleep, and each morning the patient wakened much more refreshed than she had been accustomed to do after her dose of trional. As the pulse soon began to improve the strychnine was discontinued on the ninth day after admission, and meanwhile abundant nourishment was administered. Progress from this time was uninterrupted; the feeble state of the muscular system was immensely improved by means of suitable medical exercises and the general health was maintained by giving her occasional drives in an open carriage and afterwards making her take daily walking exercise out of doors. After in all a month's treatment the patient was dismissed having gained a stone in weight and having acquired the habit of sleeping all night through. The desire for stimulants no longer pressed upon her; her pulse had resumed its proper vigor and tone and she left the "Home" a different woman both morally and physically. During the past winter I have received the gratifying intelligence from her husband that this lady maintains the good position produced by the treatment, so that the cure gives promise of being lasting and even permanent.

I would again like to draw attention to this case as illustrating the great importance of a combination of beneficial influences where the nervous system gives evidence of being seriously impaired. The good result exhibited by the case was due to the association of High Frequency Currents with the influence of the Weir-Mitchell discipline and this accords with other experiences of the same order. I should like to emphasize the point that the joint employment of these therapeutic agencies has a value in excess of what may be claimed either for one or the other taken separately.

It is unnecessary I think to adduce further instances to strengthen my statement that in the High Frequency Currents we have an agent which is capable of producing sleep in its most refreshing form and is effective in counteracting the ravages that are occasioned by intemperance whether in work, in study, in gaiety or in stimulants.

Before concluding this paper I should add that the method of treatment which I usually adopt in cases of insomnia is chiefly that of the condenser couch, and I find that much better results are obtained when in the case of adult females a minimum of 200 milliampères and a maximum of 700 are passed through the patient. In the case of men I commence with 400 and rise to 850 milliampères. I have never yet seen any evil effects from these large doses either in men or women, but the dose is always increased gradually. Occasionally the brush effleuve is employed over the head and back, and in obstinate cases I have found benefit from massaging directly over the back, the patient being connected with one of the terminals, while the current from the other terminal passes through the operator. This may be varied by laying the hand and forearm on the patient's back from the nape of the neck downwards over the spine. In this direct form of massage about 400 milliampères may conveniently be employed. Used in this fashion I can confidently commend to my confreres the application of the High Frequency Currents as a valuable agent in the relief and permanent cure of insomnia.

Baker Inspects Lands.

Taylorville, Ill., May 25.—Dr. Baker of Jacksonville today purchased 415 acres of land in Bear Creek township for $110 per acre, the total consideration being $41,915.00.

THE SURGICAL TREATMENT OF LACERATIONS OF THE CERVIX UTERI.

BY GEO. C. WAISS, M. D., CHICAGO.

The surgical treatment of lacerations of the cervix is a comparatively modern procedure. We find that Aethius, who flourished at Alexandria in the sixth century after Christ, spent a large portion of his life collecting the medical writings of others that were stored in the famous library of that city. He speaks of the use of the speculum, describes minutely the use of the sponge tent and intra-uterine medication, mentioning the use of ointments, intra-uterine pencils and the use of caustics of many kinds for the treatment of ulceration of the cervix, which shows that for a long time the Egyptian physicians had been in the habit of treating pathological conditions of the cervix uteri, and no doubt many of these so-called ulcers were unrecognized lacerations.

During the dark ages this learning seems to have been lost and its revival was slow. At first this class of troubles were treated by the most heroic measures. Patients were bled from the arm; large numbers of leeches were applied to the cervix and the unfortunate woman was freely rubbed with ointments of antimony, so that in a few days they were unable to sit up without fainting, and according to reports of cases left, the patients were cured. This mode of treatment was followed by the use of vaginal douches of different kinds. (1).

In reviewing the medical literature of the 17th century we find in the writings of Ambrose Pare in 1640, that ulcers of the womb may be recognized by the sight or by putting in a speculum.

In 1851, Sir James Simpson drew attention to the fact that lacerations of the cervix uteri are of very frequent occurrence.

Some of the evil results of the condition, too, were recognized,as will be seen by reference to Dr. Gardner's work published in 1856.

Professor Roser, of Marburg, in 1861, wrote of ectropium of the cervix as a cause of so-called ulcers of that part.

It was not until Nov. 27, 1862, that our own countryman, Thomas Addis Emmet brought the anterior and posterior lips of the cervix together with his tenaculum and demonstrated to the surgical world that the important pathological lesion known and described up to that time as an ulceration, was in reality a laceration, and at the same time furnished us the first stepping stone to the safe and efficient cure, through his famous Trachelorrhaphy. If Emmet had contributed nothing more to modern gynecology, he would deserve our undying gratitude.

Forty-three years have now passed since Emmet's operation for the repair of the lacerated cervix was first practiced. Emmet still holds to the opinion that in properly selected cases, and with the operation properly performed, better results can be obtained through its means than by any other. For many years he held to the opinion that it was possible in almost every instance, by careful local and general treatment, to restore in time the lacerated tissue to so near the normal condition that when the operation has been properly performed, complete restoration would take place, with the result of bringing about involution of the uterus.

In a paper read before The American Gynecological Society, May 6, 1897, Emmet says that in exceptional cases, it is better surgery to amputate a portion or a whole of the cervix, providing that the diseased tissues are completely removed and the wound afterward treated in a manner described by him. This mode of after treatment is all important because amputation is not sufficient in itself if the removal be done with a cautery, or the stump be left to cicatrize. His views in reference to the effect of resulting scar tissue in erectile tissue are so well known that it is not necessary for me to go into the details of this most important subject. (2).

All extensive injuries of the cervix are likely to be followed by cicatricial infiltration, which more or less completely displaces the normal myometrium, replacing the elastic cervical muscle by scar tissue as dense and

hard as cartilage. The mucous membrane of the canal is altered in time, the columnar epithelium being replaced by squamous epithelium, the arborvitae being obliterated and the mouths of the cervical glands obstructed so that the cervix is studded by little retention cysts that appear on the surface of the vaginal portion as small vesicles. These mucous follicles are estimated by Tyler-Smith to number 10,000 in the virgin cervix.

In consequence of the irritation of the cervix from cicatricial infiltration, the obstruction of the glands, and possibly its fixation by adhesions, there is a hyperplasia of all the constituent parts, muscle, connective tissue and glands, causing hypertrophy of the vaginal portion, which becomes heavy and large, filling the vaginal vault and dragging upon the uterus. In other cases there is a partial necrosis of the vaginal portion, reducing it to a mass of fibrous tissue covered with squamous epithelium. (3).

Now, if an attempt be made to repair a lacerated cervix, complicated by such extensively diseased tissue as just described, by performing the old and familiar trachelorrhaphy, you will in all likelihood, and to your own satisfaction, bring the lips of the cervix together with the sutures, and no doubt you will have a normal looking cervix as far as external appearance goes; but let us stop a few moments and consider what you have in reality accomplished.

In performing this operation you have perhaps shaved or whittled off some of the cervical tissue, and in doing this, no doubt, more has been removed from the vaginal side, for the only reason that it is more accessible and easier to remove than the more important diseased tissue which lies deep in the cervix. After having removed enough to satisfy yourself, you now bring the lips of the cervix together by drawing the thick vaginal mucous membrane in the shape of a prepuce over the still remaining pathological tissue within the cervix.

Emmet most assuredly taught us no such surgery as that, and your patient cannot be expected to receive the slightest benefit from such a procedure. On the contrary, it is bad surgery to shut in from proper drainage, tissues that should be removed. You have also added to the patient's discomfiture by establishing a source of irritation due to the retention of the uterine secretions within the pouch which has thus been formed over the cervical canal. No improvement can be expected to take place after such a procedure. The uterus will increase greatly in size and marked reflex symptoms may develop. (4).

Eventually amputation will be resorted to and the health of the patient restored. (5). On examining the tissue removed from such a case, we see the glands forming the chief element of the tissue, while the interstitial tissue is more and more displaced by them. The glands, increased in number, (hyperplasia) are close together, but preserve their epithelium and their glandular form without change. This growth, caused by inflammatory processes, remains confined to the superficial layers of the mucous membrane.

In case of enlargement of the glands (hypertrophy), they increase considerably in size. In some cases, although they are normally only depressions of the cervical epithelium, they may pass through the entire thickness of the vaginal portion up to the squamous epithelium, where they sometimes lift the latter off entirely. Through a co-existing proliferation of the connective tissue, the glands possess no even calibre, but are narrowed by projecting folds. These may lie so close together that a canal is scarcely present. The cells of the opposing sides are in contact and may unite. Since the irritating cause increases the secretion of the epithelial cells, and since the narrowing of the gland lumen permits no sufficient outflow, an excessive dilatation of the glands may result. These may in the course of time be cut off from their ducts and form cysts.

Emmet likens the condition of such a cervix to that found in the tonsil which has long been subjected to frequent attacks of inflammation, and when the only reliable procedure is extirpation. Furthermore, in performing trachelorrhaphy upon such a case, you must necessarily maintain a strip of cer-

vical mucosa throughout its length, and must leave such diseased glands and cysts as lie beneath this strip of mucosa.

This operation is much abused. A mere separation of the tissue in the vaginal cervix does not call for operation.

(6). A unilateral tear, as a rule, needs no treatment unless there be extensive cicatrization. A stellate tear without erosion or ectropion, does not necessarily demand operation. A bilateral tear with ectropion, but with no erosion, without evidences of extensive cicatrization, and with no associated leukorrhea or metorrhagia, is not in itself an indication for operation. On the contrary, if there is erosion and ectropion with leukorrhea and menorrhagia, hypertrophy or cicatrical infiltration, amputation and not trachelorrhaphy is indicated.

The cervix was formerly amputated with the knife or scissors in a straight plane and the hemorrhage was usually checked by the application of chloride of iron. If this did not succeed, the actual cautery was employed. Union by first intention under such conditions could not be obtained, and the wound was allowed to granulate with the formation of much scar tissue. The obtainance of a patulous os to the cervical canal, which is of such importance, was not under the control of the surgeon, but was left entirely to chance, with the result that in many cases the os was either entirely closed, or a stenosis produced within the cervical canal, with all its disagreeable symptoms.

There was also danger from the cautery eschar and the serum of the wound giving rise to sepsis.

Hemorrhage would often take place from the eroded vessels and endanger the life of the patient.

All these disadvantages are avoided, if the hemorrhage is checked by ligatures, or the proper application of sutures to the denuded surface.

Sims was the first surgeon to apply suture of the wound after amputation of the cervix. He desired to cover the cervical stump with mucous membrane, by passing on each side of the cervical canal, two silver wires from before backward through the cut surface of the vagina, and thus cover the stump with mucous membrane in such a way that only a small oval opening is made in the middle. This left a cavity behind the line of union within which blood and secretions gathered and sometimes resulted in the formation of an abscess. The effect from either complication would be to tear out the suture, while the entrance to the uterine canal, almost without exception, would close in time after the operation.

Emmet was greatly impressed the first time he witnessed the advantage of covering the stump, with the expectation of thus obtaining primary union, yet he labored several years before he succeeded in perfecting this operation according to his views. (7). This operation he performed many years before the publication of Schroeder's; an operation in principle like Schroeder's, but different in technique.

Emmet amputates the cervix piece by piece in the form of a cone, by cutting always toward the center, until all the diseased tissue present is removed. Silver wire is then used to bring the flaps in apposition.

Hegar's amputation differs from Emmet's in the fact that he uses the knife instead of the scissors. Hirst has modified the placing of the sutures in this operation.

Simon removes a wedge shaped piece from the whole width of each lip, and a longitudinal piece from the inner edge on both sides.

Noble, of Philadelphia, (8) amputates the hypertrophied portion by splitting the cervix, dissecting the vaginal tissue back with the knife, and then amputating each half of the cervix with the knife or scissors. The cervix is cut squarely across. Six sutures are used to form the new os.

In the Schroeder operation the cervix is split laterally and the whole cervical mucosa, with a great part of the myometrium, is excised.

The placing of the sutures employed in the different amputations can best be followed by referring to the drawings I present to you.

For a number of years I have found in re-

moving the silkworm gut sutures employed in the different methods of amputation, that I would sometimes encounter a granulating surface with the consequent formation of some scar tissue. this was no doubt due to the tension which is sometimes required to bring both vaginal tissue and cervical stump together. The silkworm gut would cut through the vaginal tissue, allowing it to retract back over the cervical stump and, healing would take place, not with first, but second intention. To overcome this condition, I have for sometime practiced a modification of Schroeder's operation in the following manner:

A careful bi-manual examination should be made in all cases, to exclude inflamed, distended or adherent tubes and ovaries.

As in all plastic operations in the pelvis, but especially those upon the cervix, a careful dilatation, followed by a systematic curettage should be practiced, for the almost always co-existing, *endometritis.*

A very important point before beginning the operation is to establish with some accuracy, the line of vaginal junction, so the bladder will not be entered in front. This is best done by passing a sound into the bladder under the strictest aseptic precaution.

The cervix is now steadied by an assistant and held just within the vaginal outlet; with the straight scissors two flaps are now created. By making firm traction with the vosella forceps, it is comparatively simple to scalp the cervix with the knife, dissecting the vaginal tissue back about one-half inch or more. Upon the anterior flap of the cervix and at right angles to the direction of the cervical canal, a transverse cut is made across the face of the flap to the depth of about one-quarter inch. Another cut is made obliquely down through the tissues of the cervix to join this, but not including the vaginal strip which has been dissected back. You thus remove a wedge shaped piece. The same procedure is gone through with in the posterior lip.

A portion of the posterior vaginal flap in the median line is now united to the cervical canal by two interrupted chromicized catgut sutures; the needle entering the center of the vaginal tissue and passing over the intervening part of the cervical stump, enters above and is then brought out of the uterine canal. The anterior portion is now treated in the same manner. If we follow the course of either of these sutures, it will be apparent that when they are tied, the free vaginal tissue will be drawn over the cervical stump to the uterine canal; thus forming a new anterior and posterior lip of the external os. One end of each suture will be left long and the other cut short. The resulting raw surface of the cervical stump must now be united with interrupted catgut sutures which approximate the cut surface, but do not include the vaginal tissue. As these cervical sutures become buried when you finish your operation by bringing the vaginal tissue over the cervical stump with a running suture of fine catgut, the end of which is tied to the long end of the suture employed in creating the new canal on the anterior side. The opposite side is treated in the same manner with the exception that you tie your running suture to the long end of the suture on the posterior side.

Sutures No. 1 are used to form a new canal. Sutures No. 2 are used to bring the cervical stump together, and to control hemorrhage. Sutures No. 3 unite the vaginal flaps over the cervical stump.

When suture No. 1 is tied, you will find that it will pull the cervical canal up and down, and when Suture No. 3 is tied to Suture No. 1, it will pull the cervical canal laterally. You consequently create a patulous canal lined on all sides with squamous instead of columnar epithelium.

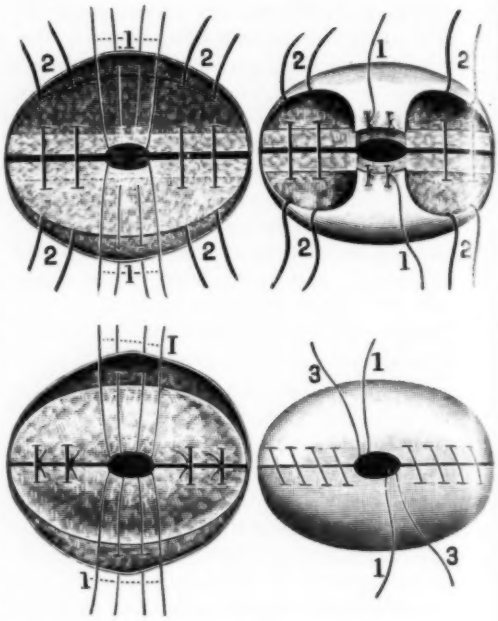
A loose gauze pack is placed in the vagina to absorb the discharges for the first two or three days, after which it is removed and the outlet simply protected by boric acid powder and a vulvar pad. If there is any discharge after this, the vagina should be douched out daily with a boric acid solution.

If no operation has been performed on the vaginal outlet, the patient is allowed to be up in two weeks. Neurasthenic patients should be kept in bed eight weeks longer, to get the benefit of a rest cure.

Before concluding, I would like to add a few more words. Do not attribute all the ailments of womankind to lacerations, no matter how severe. I am of the firm opinion that too often, the general practitioner in making a gynecological examination, stops whenever he finds something abnormal in the vaginal vault, instead of carrying his investigation higher up, and determining accurately by careful bimanual examination, the position, size, mobility, constituency and sensitiveness, first of the uterus, then of the tubes and ovaries. Unless you can do this thoroughly, you are not in a position to advise the appropriate treatment.

Again, the question may arise; after operation upon the cervix, how will this effect the patient in future labors? Will the tissues re-lacerate and another operation become necessary? To this question I will answer: If you have removed all diseased tissue present, and have a cervix as nearly normal as nature intended, you will encounter but little trouble, providing no infection follows confinement.

In connection with this question, I would like to state that I am a firm believer in the theory of the late Dr. Pryor, (9) that nature intended women to propagate at the age of fifteen or sixteen years. It is interesting to know that at this age there is scarcely any vaginal portion of the cervix, and at this time her labors would be easy, and any injury to the cervix unlikely; but civilization has decreed that the exercise of this greatest of all physical gifts shall be postponed to about the twenty-fifth year. During all these years of waiting, certain subtle changes have been going on in the cervix, as well as the body of the uterus. The chief characteristic of which is an increase in the vaginal portion, not in all cases, but in many. Such a woman coming to her first childbed will suffer an injury to the distorted cervix. (10). Compare this condition to women at or below sixteen years where complications are rare and labor takes place quickly and easily. The laceration, then, is usually a tear in a cervix already abnormal.



A. The vaginal tissue has been dissected back and the diseased cervical tissues removed. Suture Nos. 1 and 2 are applied.

B. The vaginal mucosa is drawn over the cervical stump by tying Suture No. 1.

C. The resulting raw surface of the cervix is united by tying Sutures No. 2.

D. The operation is completed by tying Sutures No. 1 to No. 3.

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IMPOTENCE AND STERILITY DUE TO GONORRHEA.*

FREDERICK A. LEUSMAN, M. D., CHICAGO.

Homo sum nisi humanum a me alienum puto.

At a meeting of medical gentlemen held not so very long ago, when the subject for discussion was sexual frigidity in the female, a guest ventured to bring up the question as to where—in what organs—the seat or seats of sexual erethism were located, an unsolved question, important from a physiological and treatment point of view. For some reason known only to him, a member rose and moved to strike out the question from the proceedings.

Now, Mr. President, ladies and gentlemen, in approaching the subject allotted to me tonight, we are of course not interested in an investigation of the motive that prompted this man to an effort to quash scientific inquiry; but I have alluded to this incident both as an illustration and as a sad commentary, to show how difficult it is, even in medical circles, to properly discuss questions of a sexual nature.

Giordano Bruno was cremated alive for desiring to know the truth in the face of the pleasure of self-constituted authority; but Galileo's earth still is turning around the sun, despite an injunction to the contrary granted in his time.

Ignorance, pedantry, superstition, bigotry, malevolence or mock modesty, while acting as a temporary obstacle, have never been able to permanently block the wheel of scientific progress and inquiry.

Decorum and an attitude of respect must ever form the foundation stone of all discussions.

The general practitioner, to whom, with the hope of experiencing relief the trusting patient, male or female, confidently applies, wants to know all about impotence and sterility due to gonorrhoeal infection, because like Dr. Deaver's prayer for a daily case of appendicitis, it is his daily occurrence to be consulted for the cure of impotency and sterility, and both as a rule can usually be traced as consequences of this popular disease.

The sanitary police officer must know in what direction, in what manner and how far he is to turn his energies to instruct the public, and to prevent not only the dissemination of small pox contagion, but also venereal diseases.

The legislator must know so as to be in a position to formulate laws in correspondence with the advanced knowledge and needs of the day.

The public must know, so as to be on their guard, proper information will deter many from the committment of errors, besides, proper care immediately applied after exposure will lead to a greater per cent of recoveries.

The daily experience of every practitioner in the city, and even the country, shows the wide distribution of gonorrhoeal infection, children and infants not excepted. Modern travel leads to infection of even the smallest hamlet. Whether gonorrhoea is a disease of civilization, like lying is said to be, we do not know. Some savage races shared the women in their tribes, while equally savage races placed the death penalty on any one that infringed on the marital privileges of their monogamous marriages. Present day experiences plainly show that promiscuous intercourse leads to disease of both body and mind, mostly gonorrhoea, while single wedlock is the only pathway towards happiness, order and culture. Impotence and sterility are the wages meted out to those that would disregard the iron laws of nature, by thus preventing their reproduction.

The preventive treatment must properly begin with infancy and youth. That at once raises the question disputed by many, shall we teach, say at puberty, our boys and our girls, that there is confronting them a sexual life, that they will have to learn to respectfully view certain phases of their sexual nature, as emissions and menstruation, that they must be made to understand the necessity of keeping themselves scrupulously clean, prepuce, vulva and anus included. They will be taught to view with suspicion

*Read at a meeting of the Chicago Medical Society.

all information of a sexual nature that does not filter down to them through honest and trustworthy channels.

Or shall we support the school of those who believe it best to let the girls find out about themselves as happy-go-lucky circumstances may chance, to let the boy be instructed by an older and perhaps evil companion into the early ways of vice and masturbation.

For my part, I believe the proper plans in detail can be formulated by the physician and teacher in conjunction. Aseptic surgery is barely twenty-five years old. It took us a long time to learn that there was such a science as paediatrics. We have found out a great deal about how to feed and care for the baby, let us fill out properly written the chapter on sexual instruction. Let us, by free discussion, learn first how to be decorous ourselves, and then secondly, how to decorously instruct others in rebus sexualibus or otherwise. We must learn how best to reach the young, at what age and in what manner and under whose auspices. The parents, as observation shows, have proved their utter incapacity in this respect, nor could we wisely expect all parents to be teachers and physicians.

As to the grown up people, it will be necessary to demonstrate to men and women alike, of how far reaching consequence gonorrhoeal infection is possessed of, they must be taught to immediately consult a competent physician when there is some urinary disorder, or a discharge urethral or vaginal. When it becomes still more common property than it is already doing of its own account, that the microscope will definitely prove whether or not the trouble is of gonorrhoeal origin, especially in all recent cases, then the fear of exposure and consequences will have a beneficent influence in tending to keep straying sheep on the right path. Children and grown up people must be made aware of the pernicious influence of alcohol on sexual activities. Children and grown up people must be made to appreciate by precept and example, the noble virtue of self control, the sexual impulse included. No alcohol, not much meat, wholesome labor in wholesome rooms and places and under wholesome conditions.

The sanitary police officer will see that there is no loafing among the rich or poor, that the successful and greedy do not take undue advantage of the successless and unfortunate, to house and over-work them under unsanitary conditions, the filth and degradation of the shop leading to moral death and gonorrhoeal infection, with impotence and sterility as nature's remedy to stop the further progress of vice.

We further are in need of free and sober discussion whether and in what manner school children shall be submitted to a proper physical and sexual examination, boys by a male and girls by a female physician, so as to determine whether a phimosis or adherent clitoris needs attention, etc., in one word, whether there is sexual or other disease, and their local hygiene in proper observance.

We must also remember how often gonorrhoeal infection is conveyed from grown up people to children and from child to child, by allowing more than one person to sleep in the same bed. All double bedsteads must be done away with as unsanitary from a physical and mental point of view.

The wise legislator, not bribed by praedatory wealth, but stimulated by a feeling of just pride and honor, engendered by the possibilities for good inherent in his position, will formulate proper laws so there will be no clash between parents and children, private rights and public privilege.

The question must also be ventilated from the socio-economic and psychiatric standpoint, along such lines as Dr. Barnardo, in London, is doing now.

As to the treatment of the individual case, male or female, it is that of the disease and largely surgical.

Azoospermia, as a rule, is due to obliteration of the seminal route, especially the vas and epididymis, one of the terminal results of gonorrhoeal infection. Liègois under 83 cases of bilateral gonorrhoea epididymitis found 75 times permanent azoospermia. Kehrer, in a series of 96 sterile marriages,

found azoospermia to be present in 30 per cent, impotence in 3 per cent. Resection of the vas as a cure has been tried, but not sufficiently often, to establish the measure as successful intervention. The gynecologist, before submitting his confiding woman patient to manipulations, operative or otherwise, when approached for the cure of sterility, will realize the necessity of beginning this treatment with the man. Impotentia coeundi as a rule is due to prostatitis or urethral stricture of gonorrhoeal origin. In the female, the common cause of impotence, frigidity and sterility, is chronic gonorrhoeal tubo-ovarian inflamation, endometritis and urethritis.

THE RELATION OF THE HEART AND KIDNEYS IN DISEASE.

BY CHARLES E. WILKINSON, M. D., DANVILLE.

The fact that the heart is frequently affected as a result of some diseases of the kidneys and that the kidneys suffer in consequence of disease of the heart is generally appreciated.

The disturbance of the heart associated with nephritis did not escape the acute observation of Bright himself as early as 1827; but this condition was first generally known when Traube, in 1856, in a treatise which has become famous, explained that a change in the heart was very common in certain forms of renal affections, and thus gave the chief impulse for the numerous clinical and experimental investigations that have been made since then as to the connection between cardiac and renal diseases.

The explanation for this connection at the present time is not absolutely satisfactory, so it is my purpose to present the most accepted theories—for theories they must be—as to the manner in which such changes are produced.

The association admits of the following classification:

First.—The heart may be the primary disease and only secondarily lead to a disturbance of the kidney.

Second.—The renal affection may be the primary disease and of itself the cause of a change in the heart, especially of a secondary hypertrophy of the left ventricle.

Third.—The heart disease and the renal affection may also develop independently of each other, as a result of an injurious influence that affects both organs at the same time.

First.—When the heart disease is the primary trouble.

As a result of heart disease, which may be an endocarditis (mitral insufficiency), or a myocarditis, the kidneys may be secondarily affected. In this way is developed the kidney of passive congestion, acute nephritis secondary to acute or recurrent endocarditis and the embolic processes in the kidney.

In diseases of the heart where the compensation is broken, the weakened condition of the circulation and the diminution of the arterial tension lead to a congestion of the different organs of the body and the effect on the kidneys is evident. In particular, there is a diminution in the quantity of urine, especially if the patient is dropsical at the same time. The urine falls in amount as low as 800 to 500 cubic centimeters (27 to 17 ounces) or even less in twenty-four hours. It becomes dark, concentrated, of high specific gravity, and abnormally acid, and hence it has usually an abundant sediment of urate of sodium. In marked degrees of stasis there is albumen in the urine as a result of the damage done the glomerular epithelium. The amount of albumen is usually slight, but it may equal one-third or one-fourth the volume of urine. Under the microscope, we find in the urine of simple passive congestion, only an occasional hyaline cast and a few red and white blood corpuscles.

Careful examination of the urine in cases of severe heart disease is of the greatest practical importance, for the character of the urine as shown by the color, specific gravity, and amount of albumen is an excellent index of the vigor of the heart and the condition of the circulation. Any change for the worse in the cardiac disturbance affects the circu-

lation and is directly shown in a dimunition of the amount of urine and an increase in its specific gravity, or it may be in the appearance of an albuminuria. Any improvement in the condition of the heart, whether spontaneous or due to the remedies administered, is shown first and clearest in the daily excretion of urine and a corresponding diminution in its specific gravity. If the changes mentioned come on as one symptom of a general venous stasis and are, accordingly, associated with cyanosis and dropsy, the diagnosis of congested kidney can be made with certainty.

The congested kidney is easily recognized anatomically. The organ is often somewhat enlarged, it feels firmer than normal, and shows both on its surface and section a dark blueish-red color, spoken of as "cyanotic induration." The medullary substance is usually darker than the cortex. Under the microscope we see considerable dilatation and a tense fullness of the veins and capillaries. The parenchyma is normal, but in more advanced cases it may show a beginning fatty degeneration of the epithelium, which is a result of the defective arterial blood supply. At first the interstitial tissue is little changed, but if the congestion persists for a long while, there may be a gradual destruction of the renal parenchyma to a certain degree, with the formation of an abundance of contractile interstitial tissue (contracted kidney).

We not infrequently meet with acute and chronic nephritis, particularly arterio-sclerotic nephritis, complicating organic heart disease. It is not an easy matter to clinically form a correct opinion as to the primary cause in such cases.

Embolic Processes or Infarction in the Kidney.—The slowing of the circulation and the disturbance of the nutrition of the walls of the vessels, which result from it, often give rise in heart disease to the formation of thrombi. These are situated in the heart itself, on the diseased valves, in the recesses between the trabeculae, in the auricles, or else they may form in the veins, especially in those of the lower extremities. From these thrombi fibrinous plugs may be set loose and enter the circulation and thus give rise to embolic processes in other organs.

Since the renal infarction, although it has great pathological interest, is hardly ever of clinical significance, we shall only give a brief description of the most essential points.

If one of the renal arteries is plugged by an embolus in heart disease, the portion of the organ cut off from the circulation must perish since all the renal arteries are terminal arteries. The epithelium undergoes the well known changes of coagulation necrosis, disappearance of the nuclei of the cells and disintegration, and the tissue becomes entirely or in part a hemorrhagic infarction. In this way arise the characteristic wedge-shaped, red hemorrhagic infarction in the kidney, or far more frequently the yellowish-gray anaemic infarction (often surrounded by a hemorrhagic areola), the base of which is the surface of the kidney. The base may reach a width of half a centimetre to a centimetre or more, while the apex extends a varying distance into the cortex, or even into the medullary substance. Later on the gradually disintegrated tissue of the infarction is absorbed, round cells emigrate from without into the region destroyed and a shrunken connective tissue cicatrix gradually develops in place of the former infarction. Many kidneys may have such a granular surface from numerous infarction cicatrices that they may be appropriately termed the "embolic contracted kidney."

The anatomical processes just described cause in most cases no special clinical symptoms at all. Sometimes, however, a slight amount of blood in the urine seems to depend on a hemorrhagic infarction in the kidney, so that when a cause for embolic processes, such as endocarditis is present, we may entertain the suspicion of the development of a renal infarction during life. In rare cases the development of a rather large infarction is associated with a sudden and violent pain in that region, with marked subsequent haematuria, or as has been observed by Strumple in one case of haemoglobinuria.

The embolic processes in the kidney never demand special treatment.

Secondly.—The renal affection may be the primary disease and of itself the cause of a change in the heart, especially of a secondary hypertrophy of the left ventricle. At present there can no longer be any doubt of the fact of this dependence. We also know that the secondary development of cardiac hypertrophy is not confined to one form of chronic nephritis—the so-called contracted kidney as was first believed, but it is almost as constant in all other forms of chronic and also in prolonged acute nephritis. Opinions are at present much divided as to the precise nature of this connection and as to the casual factor.

The theory which Traube himself advanced for the explanation of the cardiac hypertrophy in nephritis, rested on the assumption, that, in the first place less water is withdrawn from the blood in nephritis for the formation of the renal secretion and that in the second place, the flow of the arterial blood into the venous system is hindered by the changes in the kidneys, particularly by the destruction of many of the smaller blood vessels. Both circumstances he concluded must raise the blood pressure in the arterial system and therefore gradually lead to cardiac hypertrophy. Traube's theory cannot be maintained. The first claim, especially is untenable, because in many cases of chronic contraction of the kidney with co-existing hypertrophy of the heart, there is never diminution of the elimination of water by the kidneys and besides, this can never of itself cause an increase of the arterial pressure. The second supposition, that the destruction or the narrowing of the large number of the small blood vessels of the kidneys must produce a general rise of the arterial tension, is disproved by the fact that even the complete ligation of both renal arteries does not raise the tension in the arterial system because the blood at once passes off into other vessels which dilate.

In place of the "mechanical theory" there have been of late many supporters of the "chemical theory" of cardiac hypertrophy, which was in a certain sense propounded by Bright himself and later by Johnson and others. This view with some modification is held by Strümple, viz:—"the retention of urinary constituents in the blood is the cause of cardiac hypertrophy because the retained material occasions a rise in the arterial tension, and this increased tension, if it persists for a sufficiently long time, must occasion a hypertrophy of the left ventricle on account of the increased amount of work called upon the heart to perform. Clinical experience shows beyond a doubt, that any severe case of acute nephritis occasions in a few days an increase in the arterial tension which can usually be perceived by the pulse. This increased tension, which certainly precedes the cardiac hypertrophy, is best explained by the supposition that the matters which ought to be but are not excreted, occasions a contraction of the smaller arteries. It is also possible to conceive that there may be a direct irritation of the cardiac muscles. At any rate, the occurrence of a rise in the arterial tension is of decided benefit to the body as it promotes the excretion of urine. If in the course of a nephritis, the normal conditions return after a few days or weeks, the increased tension is relaxed and the heart suffers no noticeable change; but if the nephritis and consequent impairment in the urinary secretion and increased arterial pressure persist for a considerable time, we often see, even after six or eight weeks, a hypertrophy of the left ventricle develop in a way that can be demonstrated most distinctly at the bed-side. This is the necessary consequence of the increased effort which the heart is obliged to make in order to overcome the abnormal resistance in the systemic arteries.

We have the same conditions precisely in the chronic forms of nephritis, except that they develop more slowly and insidiously. In these, also, the first factor is the insufficiency of the kidneys occasioned by the disease—that is—failure to excrete all the products of metabolism. To this the body responds immediately by a rise in arterial tension, which is intended to serve and does actually serve as a compensation of the impairment; then later the hypertrophy of the

left ventricle develops and enables the heart for a long while to supply the demand put upon it. This hypertrophy is consequently the most important and indespensible compensatory arrangement by means of which the body is protected from the onset of uraemic intoxication. Just as any patient with valvular heart disease would invariably fail much earlier if his heart did not become hypertrophied in portions corresponding to the lesion, so, also, in chronic nephritis the unfavorable termination would occur much earlier if the body were not in a position to effect and maintain an increase in the arterial tension and thus ward off the threatening enemy. Viewed in this light, the "chemical theory" of cardiac hypertrophy not only gives us an insight into the clinical phenomenon as such, but also enables us to perceive its true significance."

Senator has long observed a notable difference in the composition of the blood in cases of parenchymatous nephritis from that found in chronic interstitial nephritis. In parenchymatous nephritis the molecular concentration of the blood is not particularly altered, but in interstitial nephritis it is increased. The amount of albumen and the specific gravity of the blood are diminished in parenchymatous nephritis but is normal in the interstitial form. Retention nitrogen, i. e., the nitrogenous substances which remain in the blood after the albumen has been removed, is not increased in parenchymatous nephritis, but is to a great extent in interstitial nephritis. The toxicity of the blood is diminished in parenchymatous nephritis but is increased in the interstitial form.

Some have claimed that irritating substances present in the blood in chronic parenchymatous nephritis are such as to act on all parts of the circulatory system and tend to bring about a general hypertrophy.

What the substances are that occasion the rise in the arterial tension cannot be answered at present; but it is evident that the results of experiment indicate that urea probably does not play the most essential and certainly not the sole part in the matter.

There is a change in the permeability of the walls of the blood vessels, especially those of the general circulation, which leads to a dropsical transudation which can be looked upon as aiding the organism by removing part of the noxious substances from the blood.

Tyson states that he inclines to the belief that "we should not lose sight of the possibility that the primary changes in the heart may be compensatory in their nature, set up with a view of supplementing the gradual loss of renal substance. Such an action is paralleled everywhere in the physiological economy. Nowhere do we meet with loss of function which is not at once met by an attempt of nature to compensate for it. The dependence of the urinary secretion upon the cardiac pressure is well understood and an increase of the cardiac power is the most reliable means available for stimulating the action of the kidneys when desired in therapeutics. The diuresis which is so constant a symptom of the contracted kidney is acknowledged to be the direct result of a supplemental contraction of the left ventricle, which it is reasonable to suppose is induced for the purpose named and results in hypertrophy."

What is the subsequent course of the disease? So long as the free secretion of urine continues, so long will the patient remain tolerably comfortable and perhaps even for a time unconscious of the presence of the disease. But an organ overgrown is sure, sooner or later, to suffer in its nutrition. Especially is this the case if the arteries be the seat of an endarteritis, interfering with the free movement of the blood, and producing also fibro-myocarditis. Later in the course of the disease, the strong propulsive power of the heart declines, the pulse falls away in tension and power and becomes more frequent and sometimes irregular. The urine diminishes in quantity and assumes a darker hue. Fortunate is the patient if the specific gravity of the urine rises inversely with its reduced quantity, as it indicates that the normal excretion of solids is kept up. Too frequently this is not the case and excrementitious substances accumulate in the

blood, laying the foundation for uraemia. Headache, nausea, a foul and even an urinous breath may be superadded and uraemia sets in, preceded by drowsiness, or it may be ushered in suddenly with convulsions. Or another set of symptoms may supervene—the patient becomes short of breath at first, and later this very distressing symptom occurs without any exciting cause. For a time this sort of asthmatic breathing may be averted by whipping up the heart by cardiac stimulants and the right ventricle even comes to the rescue for a time and hypertrophies in its effort to overcome the now disturbed compensation. Subsequently this as well as the left ventricle may become dilated and edema of the lungs sets in, with an annoying cough and serous, frothy, expectoration—sometimes blood tinged. Dropsy ensues sooner or later with growing heart failure. These symptoms may subside for a time but recur and death is the ultimate consequence.

In the third place—where the heart and kidney disease is produced by the same cause.—Heart disease and renal affections may also develop independently of each other as a result of an injurious influence that affects both organs at the same time. Thus, for example, a general arterio-sclerosis leads to cardiac hypertrophy or to myocarditis, and also to granular kidney as a result of an implication of the renal vessels. Certain other injurious influences such as toxic and constitutional influences, alcohol, syphilis, or improper living, may also cause a disease of the heart and kidneys at the same time. Later on, if both affections have developed, their influence on each other is often, of course considerable—a circumstance which may render our judgment as to the condition decidedly difficult.

In arterio-sclerosis the cardiac disturbance is hypertrophy of the left ventricle. This is occasioned by the increased resistance to the arterial circulation and a compensatory act in order to enable the heart to perform the extra work called upon it. This condition is often apparent during life from the strength of the apex beat and its displacement to the left, and also from extension of the cardiac dulness to the left. On auscultation, the increased tension in the aortic system is made manifest by the strength of the aortic second sound. The examination of the heart is often rendered difficult by the presence of pulmonary emphysema. It is sometimes difficult to decide how far a manifest hypertrophy of the left ventricle is due to an arterio-sclerosis and not to other coexisting processes, such as contracted kidney.

We often have other anatomical changes in the heart besides hypertrophy of the left ventricle. Thus we have a myocarditis as a result of an extension of the sclerotic processes to the coronary arteries. The final result of this is a degenerative inflammation of the heart affecting principally the myocardium and resulting in weakness and irregularity of the heart's action. Sometimes from an invasion of the aortic valves by the atheromatous processes we get an insufficiency, or more rarely a stenosis of the aortic crifice. The degree of cardiac hypertrophy in arterio-sclerosis is sometimes enormous, especially when there is an insufficiency of the aortic orifice. The heart weighs in some cases as much as 850 grams (28 ounces). In twenty-seven cases studied by Councilman the average weight was over 400 grams (13 ounces), as contrasted with the normal 310 grams or 10 to 12 ounces.

In the kidney as a result of an arterio-sclerosis, there are alterations in the kidney, which vary greatly in extent, being sometimes scarcely noticeable and sometimes extreme, due to the direct result of an interference with the nutrition. The blood supply to the renal elements being cut off, these waste and ultimately disappear. The cells and tubules thus destroyed are gradually, but irresistibly, replaced by fibrous connective tissue. The origin of the granulated "senile kidney" is in large part atheroma of the renal arteries. I do not mean to infer that all cases of contracted kidney are due to arterio-sclerosis.

Syphilis.—The effect of syphilis on the heart by producing a form of disease of the coronary arteries deserves special mention. It is somewhat different from the ordinary

arterio-sclerosis although the number of proved cases is not great. It is scarcely possible to doubt that there is a specific syphilitic endarteritis of the coronary arteries giving rise to almost exactly the same symptoms as ordinary arterio-sclerosis. At any rate, this point should in every case be considered, for therapeutic reasons if none other.

The renal disturbance resulting in consequence of syphilis is probably of a secondary nature resulting from arterio-sclerosis where syphilis is the predisposing cause of the arterial disturbance.

Alcohol.—Certain forms of chronic intoxication are among the causes which frequently lead to acquired weakness of the myocardium or its nerves. The most important of these, from a clinical standpoint, is chronic alcoholism. The noxious influence of alcohol upon the heart is universally recognized, producing a weakness of the myocardium or toxic weakness of the heart. In chronic alcoholism, we find numerous organic diseases, including the contracted kidney, cirrhosis of the liver, heart disease, etc.

Strümple says that "experience teaches us that there are three chemical substances to be mentioned which may favor the development of contracted kidney, viz: Alcohol, lead and uric acid. Chronic alcoholism is often to be regarded as the most probable cause of renal contraction, especially in people who have "lived well" otherwise and have become corpulent. In these cases, contracted kidney is to be considered or viewed as a sort of atrophy, due to wearing out or strain. It is difficult to decide how much influence should be ascribed to the alcohol itself and how much to the ingestion of food. The specific effect of alcohol is almost indubitable in those cases in which contracted kidney and hepatic cirrhosis are both present, a combination repeatedly observed." We frequently see cases of apparent primary acute nephritis in great beer drinkers.

Infectious Diseases.—A very large proportion of the danger with which most of the Infectious diseases are fraught, lies in the mechanical burden which the heart must carry and the chemical residuum from which the kidneys must rid the system.

In some of the infectious toxemias, as in pneumonia, the part called upon the heart is of most importance while in others as scarlet fever, the role of the kidneys as emunctories may be said to overshadow in importance the part taken by the heart in combating the disease and carrying the patient through to convalescence. This being the case, it is nothing more than to be expected that heart and kidney disturbance frequently result from some of the infectious diseases. To enter into an explanation and attempt to present the effect and probable manner in which disturbances of the heart and kidneys may result in consequence of the infectious diseases will require more time and space than we can give to it in this paper.

In conclusion I wish to refer to the following points:

1. When passive congestion occurs in connection with heart disease, the lesion is a mitral insufficiency.

2. Careful examination of the urine in cases of severe heart disease is of greatest practical importance, for the character of the urine as shown by the color, specific gravity, and amount of albumen is an excellent index of the vigor of the heart and the condition of the circulation.

3. When hematuria occurs in connection with endocarditis, we may entertain the suspicion of the development of a renal infarction.

4. Hypertrophy of the left ventricle develops in most all forms of chonic and also prolonged acute nephritis.

5. The "mechanical theory" that was first presented in explanation of the hypertrophy of the left ventricle in nephritis is not so generally accepted as the "chemical theory." In connection with this may be mentioned the compensatory act of the heart which is frequently observed where more work is put upon it.

6. We should bear in mind the possibility of an extension of the sclerotic processes to the valves of the aorta producing a stenosis or an insufficiency and that the mitral valve is not involved till late in the disease.

7. The condition of the heart and kidneys should be carefully watched in patients suffering with any of the infectious diseases, as the ultimate results depend upon these organs.

8. It is always interesting to be able to decide when possible, which is the primary disease when the heart and kidneys are both involved, but fortunately, this difficulty does not always extend to therapeutics, as the same remedies which are useful to one affection are commonly indicated for the other.

THE OPERATIVE TREATMENT OF EMPYEMA OF THE ANTRUM OF HIGHMORE.

BY DR. OTTO T. FREER, CHICAGO.

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Brief Review of Anatomy and Pathology.—A cast of the interior of the maxillary antrum resembles somewhat in form a three-sided pyramid standing inverted upon its apex, its base corresponding to the roof of the cavity. The roof of the antrum also serves as the floor of the orbit, is thin and fragile and contains the channel for the infraorbital nerve. The three sides of the maxillary sinus converge at the bottom to form its floor, a broad rounded groove, extending sagittally above the molar teeth, whose sockets may project above the surface if the alveolar process be hollowed out to an unusual depth. The three walls of the antrum are called the facial, anterior or buccal wall; the temporal or posterior wall; and the nasal or inner wall.

The anterior, facial or buccal wall is the thickest and strongest, especially where a buttress of bone, dividing the facial from the posterior surface of the superior maxillary bone, extends from the first molar tooth to the malar process. The anterior dental nerve, branching from the infraorbital nerve descends in the facial wall and its filaments are distributed to the incisor, canine and first bicuspid tooth. This nerve anastomoses with the posterior dental nerve opposite the canine fossa.

The posterior, temporal or zygomatic wall forms the anterior boundary of the zygomatic (pterygo-palatine) fossa. Immediately behind it lie the internal maxillary artery with its posterior nasal and descending palatine branches.

The inner or nasal wall (Fig. 1) is divided by the attachment along its whole length of the inferior turbinated body, into a stronger, bony lower portion, corresponding to the inferior meatus and a thin, partly membranous portion reaching to the attachment of the middle turbinated body and occupying the middle meatus. Underneath the middle turbinated body is found the groove behind the uncinate process of the ethmoid bone and between it and the bulla ethmoidalis, called the infundibulum. The small normal opening of the maxillary antrum is commonly found in this groove, together with the openings of the anterior ethmoidal cells, and the outlet of the frontal sinus, called the ductus naso-frontalis, is continuous with it at the top. In addition to the usual outlet there are often accessory openings of the maxillary sinus situated below the hiatus semilunaris in the middle meatus. Just in front of the nasal wall of the antrum is situated the lachrymal sac, slightly in advance of the anterior border of the middle turbinated body. The tear duct descends nearly vertically from it and opens under the lower turbinated body near the junction of its anterior and middle fourths.

The interior of the antrum in rare cases is found divided horizontally or vertically into compartments by more or less complete bony septa. Some antra are small, having very thick walls.

The antrum is lined with a thin, closely attached mucosa-periosteum bearing ciliated epithelium. Acute inflammation of this membrane causes but moderate swelling and inflammatory infiltration and even in chronic sinusitis it may for a long time remain but little thickened or altered. In most chronic cases, however, hypertrophic changes take place, so that the normally delicate mucous

membrane entirely changes its character, undergoing in some cases enormous fibrous thickening which nearly fills the lumen of the antrum, the surface of the altered mucosa remaining smooth or becoming warty or covered with irregular outgrowths. In other cases the interior of the cavity is found partly filled with masses of granulation tissue, thickened mucous folds and collections of polypi, while portions of the mucosa may undergo cystic degeneration. The fissures and sulci separating the loose irregular proliferations so formed, retain the secretions and sinusitis maxillaris exulcerans aut exedens. In this manner abscesses of the orbit or of the zygomatic fossa may result which include the danger of brain abscess and meningitis, while in more fortunate cases the abscess forms over the facial wall of the antrum. Abscesses about the antrum may also occur without preceding caries, the septic process penetrating the bony wall by means of thrombosis of penetrating veinlets.

The discharge in inflammation of the maxillary antrum may be serous, purulent or even absent but it is usually pus and in

Figure 1. View of external wall of the nasal fossa. The middle turbinated body has been removed showing its cut edge, a; b, uncinate process of the ethmoid bone from which a V has been cut out to show the infundibulum underneath it with the normal opening of the maxillary antrum, c; d, accessory opening of the antrum; e, hiatus semilunaris.

lead to their stagnation and putrification. Even the bone may become affected in chronic maxillary sinusitis, chronic periostitis leading to the production of osteophytes that line the interior of the antrum. Caries or necrosis of bone may also occur. Localized caries often exists in the neighborhood of diseased teeth, but other parts of the antral wall may become necrosed because of penetrating ulcers of the mucosa. When this occurs there is danger that the suppuration will extend beyond the interior of the antrum and produce the fortunately rare condition called chronic cases generally fetid, sometimes intensely so. The quantity of secretion varies from scarcely perceptible amounts that dry into crusts in the nasal passages, to quantities that require the constant use of the handkerchief. The serous forms of chronic sinusitis of the antrum are more pathological curiosities than important surgically and it is the purulent type of the disease that is of operative interest.

Reasons for Usual Obstinacy of the Disease.—The antrum is normally empty and collections of fluid in its interior are always

pathological and by reason of the structure of the sinus run off with difficulty. The small natural opening of the antrum, situated unfavorably near the top of the cavity when the patient is upright, is ill suited for drainage, readily narrowed by swelling and in addition polypoid proliferation and swelling of the mucosa of the middle turbinate and the infundibular region, resulting from chronic infection due to the outflow of pus, still further block this inadequate outlet so that the pus often needs to be under positive pressure from continued secretion in order to force its escape. Another obstacle to drainage is the deposit of fibrinous purulent and cheesy clots from the stagnant pus, these solid putrifying masses blocking the outlet which they are unable to pass and adhering to the lining of the antrum. The suppuration in maxillary sinusitis is however not only kept up because of bad drainage but also because the unyielding walls of the antrum cannot approach and obliterate its lumen, and hence the condition possesses the notorious tediousness of all suppurations in rigid walled cavities whose lining becomes too much altered by disease to return to its normal state, for though nature often attempts to fill up such cavities by the proliferation of connective tissue, this pathological hyperplasia in the case of the maxillary antrum usually results in so complete a degeneration of the mucosa, with the creation of cysts, polypi and exuberant outgrowths, that the suppuration can often only be checked by the more or less complete removal of these morbid products. Sometimes the bone has even to be completely bared and left to cover itself with granulations and later with epithelium derived from the healthy mucosa of the nasal passages before recovery can take place. The anatomical and pathological facts mentioned explain the obstinancy of the suppuration in chronic maxillary sinusitis, the inefficiency in most cases of anything but the freest drainage and the need in a number of instances of radical operations to cure the disease.

The Meibom-Cooper Operation Through the Alveolar Process.—One of the oldest but least effective and yet most commonly employed operations for the relief of empyema of the antrum is alveolar drainage, the Meibom-Cooper operation. The method seems very plausible, for apparently it establishes drainage at the most dependent portion of the sinus when the patient is upright. A hole is drilled up into the antrum through the opening left by the extraction of a molar tooth or root, or if there be a vacant space instead of a tooth, the opening is made through the bone of the alveolar process after incision of the gum. A dental engine with a burr or trephine are the best implements for the operation.

The largest opening obtainable by the alveolar method is too small for efficient drainage, for purulent coagula, cheesy masses and thick pus can not pass through it, and patients therefore often resort to suction through the wound canal in their attempts to clear the cavity of secretion. To keep the hole from closing a gold or rubber tube or an obturator has to be worn constantly in it. These foreign bodies keep up a continual irritation, granulations sprout about the end of the tube in the antrum and often block it, while the new growth of bone in some cases is so vigorous that it tends to displace the oral end from its proper site between the teeth, interfering with mastication, or it makes it more and more difficult and painful to reintroduce the tube. Drainage through its easily obstructed little bore is so imperfect as to be largely illusory and the patient has to supplement it with frequent irrigations, which are only successful if the natural opening be free enough to act as a counter drain. In spite of daily washings with antiseptic solutions, however, the discharge is apt to keep putrid, to the disgust and injury of the patient. All of these annoyances make him dissatisfied with the mere palliation of his condition usually obtained by alveolar operation in chronic sinusitis. It is not to be denied, however, that there is a chance of recovery by its aid in some of the milder and more recent cases. A decidedly objectionable feature of the operation is the frequent need

of sacrificing a useful tooth for its performance.

The Kuester Operation Through the Facial Wall Alone.—The inefficiency of the alveolar method led to the operation of Kuester through the facial wall of the antrum. An incision to the bone is made in a line about a centimeter above the root of the canine tooth backward to the second molar; the mucous membrane of the upper lip and the periosteum of the facial wall above it is then scraped up with a raspatory to about 1½ centimeters above the sockets of the teeth and an opening is made in the antrum above the roots of the second bicuspid and first molar teeth. The best instrument for this purpose is the trephine driven by a dental motor, the resulting opening being enlarged as wished by a burr. The chisel and rongeur forceps may also be used. Kuester made an opening large enough for the entrance of the little finger to explore the antrum and to permit the use of an ear speculum for inspection. More radical operators following Boenninghaus (Fraenkel's Archiv fuer Laryngologie, Vol. 6) and Jansen make the mucous membrane incision from the second incisor to the wisdom tooth and uplift the soft parts to the apertura pyriformis, (skeleton opening of the nose) to the base of the malar process, and to the foramen infraorbitale. If the mucosa lining the antrum be found extensively diseased the window in the facial wall is made as large as the denuded area, from the nasal wall of the antrum outward to the malar process, downward to the floor of the antrum and upward to the infraorbital foramen, removing thus the entire facial wall of the maxillary sinus. The diseased mucosa is then scraped away to the bone.

The hemorrhage in the operation through the facial wall is severe, and in most cases general narcosis is needed. Even the largest opening in this wall has a strong tendency to close up in time, so that obturators have to be constantly worn, with the usual result of irritation of the lining of the antrum and consequent sprouting of fungus granulations. Food is apt to get into the cavity, become lost in it and decay there, and the unnatural communication between mouth and antrum is intensely disagreeable to the patient. The ragged aperture is also very sensitive. The injury to the anterior dental nerve is of no consequence for should numbness of the teeth be caused by it, it will disappear in a few days.

The Caldwell-Luc Operation.—These objections to a permanent communication between the antrum and the mouth led some operators to make the opening in the facial wall merely for the time of the operation, closing it by suture immediately afterwards, after the temporary facial aperture had been used for curettage of the cavity of the sinus and for the purpose of making a large permanent opening through the nasal wall from the antrum into the nasal cavity, preceded by the resection of a portion of the lower turbinated body. This is the method of Luc and Caldwell, called the Caldwell-Luc operation. Boenninghaus (Fraenkel's Archiv. fuer Laryngologie, Vol. VI, 2) performing this operation in a more radical manner than its originators, first removes the whole of the facial wall and then cuts away the bone as much as possible from the entire nasal wall including the lower turbinated bone, which he dissects out from its mucous covering from within the antrum. The nasal mucous lining of the nasal wall he then forces with a tampon into the antrum in order to form a new mucous membrane for it in place of the diseased one curetted away. Berens (T. P. Berens, Chronic Multiple Sinusitis, The Laryngoscope, Vol. 14, 1904, p. 868), of New York, operates in a similar radical manner.

The Caldwell-Luc operation and its more radical modifications place the antrum in free communication with the air in the region of its natural opening into the nasal fossa. Even if the discharge do not cease the patient can blow it out with his handkerchief through the normal channel for its egress, the nose; he can readily irrigate the cavity; he is not annoyed by tubes or obturators in the mouth, and no foreign body is kept in the antrum. The method is therefore a great improvement of the Kuester op-

eration. Nevertheless the procedure is a comparatively formidable one, requires as a rule general narcosis, produces severe hemorrhage and seems out of proportion to the gravity of the disease as met with in the average case.

Figure 2. S. S. Bishop's trephine.

Rhinological Operations.—The operations described up to this part of this article belong to general surgery, which prefers a direct attack on the seat of disease, no matter what the obstacles in the way, to reaching the field of operation by patient and difficult manipulations with the aid of reflected light in such a hidden and narrow cavity as the nose, even though this latter method, the method of the rhinologist, accomplish the result with much the least injury to the patient. It is the rhinologist who has of late thought out the operations through the nasal wall of the antrum which achieve with a minimum of traumatism, in all but exceptional cases, all that can be obtained by the severer methods of general surgery.

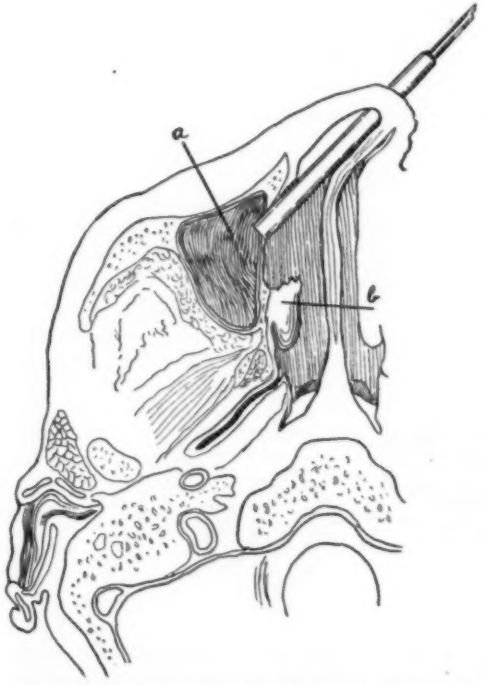

Figure 3. Horizontal section of head at level of lower turbinated body; a, antrum of Highmore; b, resected inferior turbinate. The trephine is seen entering the nasal wall of the antrum, while the tip of the nose is displaced strongly to the right.

The best modern methods of opening the antrum broadly through the nasal wall are the operation through the middle meatus and the more radical operation of ablation of nearly all of the nasal wall through the nose. Small openings such as that of Mikulicz made under the inferior turbinate are ineffective, close up again, and have been abandoned.

The Operation Through the Middle Meatus.—The hardness and thickness of the nasal wall in the inferior meatus led Siebenmann (Muenchener Med. Wochenschrift, 1900, No. 1) and Onodi (Fraenkel's Archiv, Vol. 14) to choose the thinner part of the wall in the middle meatus for making a permanent opening from the nose into the antrum, and for the cases without much pathological change in the mucosa of the sinus this method is ideal. The aperture is readily found by the patient for irrigation and when he lies on the affected side drainage is perfect. Siebenmann makes his opening with the little finger. Though this emphasizes the ease with which the nasal wall may be broken down in the middle meatus, it is too crude a method for exact work and in many cases the little finger can not even be introduced between the middle and lower turbinate. Onodi uses a combined pincette and trocar designed for puncture and dilation of the opening made. This curved trocar pierces the nasal wall of the antrum in the middle meatus one centimeter posterior to the anterior end of the middle turbinated body. It is then withdrawn a little and its branches spread, an opening two centimeters long resulting. The borders of the opening are then cut away with the Hartman or oth-

er punch forceps until the portion of the nasal wall of the antrum between the middle and lower turbinated bodies is cleared away. The space occupied by this part of the wall is about 1½ centimeters high and 3 to 4 centimeters long and its ablation gives a large, permanent opening for drainage and irrigation which may be easily managed by the patient. The operation may be done under cocain anaesthesia and adrenalin and but little bleeding is to be expected. The first puncture should be made as low as possible, just above the attachment of the inferior turbinated body, for if the orbital floor be low or the attachment of the turbinate high, it might be possible in rare instances to perforate the orbit. For the same reason in enlarging the opening it is better to sacrifice a little of the upper part of the inferior turbinated body rather than to extend it far upwards. A forcible plunging of the instrument into the antrum is to be avoided lest it transverse its cavity and pierce the temporal wall into the zygomatic (pterygo-palatine) fossa.

Figure 4. Freer's barrelshaped antrum bur.

For the acute, subacute and milder chronic cases the intranasal operation through the middle meatus is undoubtedly the best method, for it is easy of performance, inflicts but trifling injury, leaves the nasal interior practically intact, and avoids the formidable operation through the facial wall.

The Radical Intranasal Operation of Removal of Nearly All of the Nasal Wall of the Antrum.—Where the suppuration is marked, with much foul discharge, or where the long duration of the disease leads to a suspicion of marked degeneration of the mucous lining of the antrum, the intranasal removal of nearly the entire nasal wall is indicated; the operation advocated by Réthi (Wiener Klin. Wochenschrift, 1904, No. 34) and Claouè, (Revue Hebd. de Laryngologie D'Otologie et de Rhinologie, 1903).

The following is my method of its performance. The light used is the Kirstein electric head lamp, so that, if need be, the patient may lie down during the operation, no source of reflected light being needed. Powdered cocain is applied with a minute swab to the region of the inferior meatus and inferior turbinate and these parts are made bloodless with adrenalin. The inferior turbinated body is then cut off along the anterior ⅔ of its attachment with Gruenwald's scissors and the flap severed posteriorly with a snare or small knife with angular attachment of its blade. After the turbinate has been resected the nasal surface of the nasal wall of the antrum becomes plainly visible. A straight trephine (Fig. 2) attached to the cable of the electric engine is then introduced, and its cutting edge applied as far forward as possible against the outer wall of the nasal cavity in the inferior meatus. (Fig. 3). In order to accomplish this the shank of the instrument is pressed firmly against the cutaneous septum, displacing the nasal tip strongly to the opposite side of the face. The instrument readily and quickly cuts through the bone, no matter how thick, and with an unmistakable sense of its penetration into a hollow space, so that the operator is in no danger of perforating the temporal wall of the antrum under the impression that he has not yet entered the sinus.

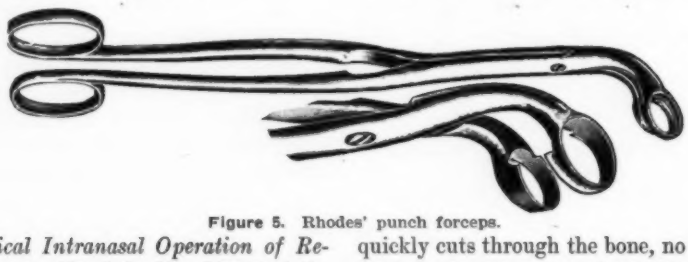

Figure 5. Rhodes' punch forceps.

A second and third core is then trephined out in the same manner and then nearly all of the anterior ⅔ of the nasal wall of the antrum are cut away with a long barrelshaped straight bur, (Fig. 4) followed by Rhodes' large punch forceps, (Fig. 5) to trim off portions of bone not easily reached with the bur, the window made extending from about ¾ of an inch behind the apertura pyriformis in front to nearly as far back as the perpendicular plate of the palate bone behind. Below the bone is cut away with the bur to the level of the nasal floor. This must be thoroughly done so that no ledge remains between the nasal cavity and that of the sinus. Above, the window reaches to about the level of the

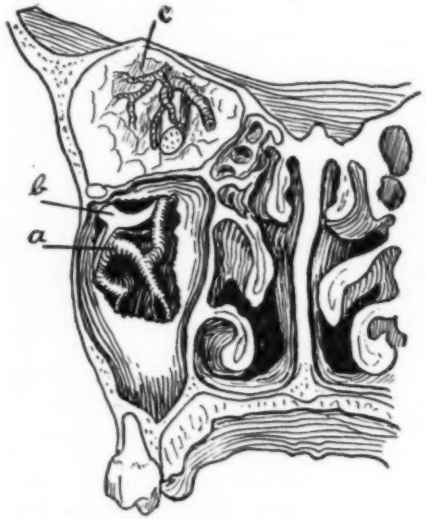

Figure 6. Vertical section across nasal cavity showing antrum with orbit above; a, arteria maxillaris interna; b, 2nd division of 5th nerve; c, orbital fat containing ophthalmic artery and optic nerve.

lower border of the middle turbinated body. The large opening made permits inspection of the interior of the antrum and its cavity may be palpated with the little finger. The large Rhodes' punch may be introduced through the window and polypi and granulations be trimmed off with it and if needed the aperture may also be used for curetting away the diseased mucosa. The cavity of the antrum and the nasal fossa are then packed with long strips of lint impregnated with subnitrate of bismuth, a packing which I use after all of my intranasal operations, as it remains ideally aseptic for more than a week. The tampon is removed on the second day and the antrum left empty. Its interior is irrigated with boric acid solution until discharge ceases.

The only dangerous region encountered in the operation is the posterior wall of the antrum and the hindmost part of its inner wall. Behind the posterior wall (Fig. 6) lies the internal maxillary artery with the sphenopalatine artery, the arteria nasalis posterior and arteria palatina descendens branching from it. A number of cadaver operations showed me that this wall could only be injured, should the trephine plunge through too far, if the instrument were directed backward in a line at an angle with the septum of about 20 degrees. The proper angle is about 45 degrees, that is the trephine should be made to lie as nearly across the naris as possible by forcing over the septum mobile. Trephines or burrs on curved shanks I did not find necessary.

The opening should not extend backwards beyond the posterior third of the lower turbinate and one should not attempt to be too radical and cut away portions of the perpendicular plate of the palate bone lest one should possibly injure the arteria palatina descendens or by advancing high up, the spheno-palatine artery or its branches. Berens mentions arterial hemorrhage from this latter region in one of his operations by the radical method.

The burr I employ is barrel shaped like that of Curtis, (The Laryngoscope, 1903, p. 737), but I had it made longer, 2½ centimeters in length, so that it should not slip off from the edge of the bone when cutting. Its diameter is 4 millimeters, it has saw teeth and a smooth blunt end. Palpation is a most useful guide in doing the operation and Rhodes' punch forceps I have found better than the smaller kinds.

In the great majority of cases this operation results in a cure and does everything for the patient that may be obtained from even the most radical Caldwell-Luc procedure, and with far less traumatism. It is no bar to a later operation through the facial wall should

it become needed and has the advantage that it represents the last and most advantageous step of the Caldwell-Luc operation without its preliminary mutilation of the facial wall and mouth. In exceptional cases where the nasal fossa is so abnormally narrow that access to the nasal wall of the antrum through the nose is extremely difficult, the Caldwell-Luc operation will have to be resorted to, also where caries of bone, abscesses about the sinus or extensive complicating sphenoidal and ethmoidal disease require the freest access. Practical experience has shown that lasting injury to the tear duct is not to be feared from the various operations described that attack the nasal wall. The lower end of the duct is doubtless often cut away, but this occurrence seems to cause nothing worse than transient epiphora.

Conclusions.—The intranasal operations, both the one in the middle meatus in milder cases and the radical one of Rèthi, removing nearly all of the nasal wall of the antrum, in worse ones, are to be preferred in all but a minority of the most obstinate and severe cases to the Caldwell-Luc operation and its radical modifications.

The Cooper-Meibom method of drilling into the antrum through the socket of a tooth is usually merely palliative and had better be abandoned for the intranasal operations described.

THE EDUCATIONAL TREATMENT OF NEURASTHENICS.

BY CHAS. D. CENTER, M. D., QUINCY.

The captaincy of the men of death is fought for by "the great white plague" and pneumonia. The struggle is watched by the millions scattered over the civilized earth, and the intensity of the concentration of vision causes the escape from sight of many foes less formidable to life, but equally as potent for woe as destroyers of happiness. Tuberculosis and pneumonia are open foes; they strike boldly; their moves are more or less spectacular; their blows can be felt and seen; their conflicts are Napoleonic; when beaten they concede their defeat and withdraw from the field.

As a striking comparison to them, and easily heading the list of the creeping, insidious enemies of mankind's physical happiness and well-being, one may justly place Neurasthenia, sometimes derisively called "the great American disease." It is, in the history of pathology, what the Inquisition was in the history of Europe. It carries no bold face, it strikes no valiant blows, but works in secret, lurks unseen, tortures rather than kills, and undermines the confidence, the stability, the well-being and happiness of its victim. It is the scavenger following in the footsteps of accident, of disease, of over work and over anxiety. It is an intangible, elusive thing with which to deal, difficult to describe, and, unseen with the eye or the microscope, its presence must be told only by its ravages. As if to crown its heinous conduct it is, to quote from one author, ([1]Church) "essentially a disorder of the energetic, productive, troubled period of life."

There is no doubt excess may be given as the cause of neurasthenia. Excess of work, of worry, of alcohol, of tobacco, of sexual indulgence, of fright, of shock, of religious enthusiasm, of study, of laziness or indolence, or of anything that instantaneously overturns nervous balance, or that little by little increasingly disturbs that equilibrium. The effect of this disturbance covers a large portion of the recognized pathognomic signs and symptoms. There is muscular weakness, twitching, tremor, increased reflex,, weariness, headache, backache, tenderness along the spine, eye change, disorder of hearing, taste and smell, indigestion, anorexia, palpitation of the heart, vaso-motor change, urinary change, sexual weakness, loss of memory, mind depression, definite or indefinite apprehension of fear, illusions—particularly those of cutaneous sensibility, of taste and smell, and of pain—unusual pain frequently described as a gnawing sensation, insomnia, nonrestful sleep, troubled dreams, anaemia, a *chief obsession*, and many others. It reads like a patent medicine advertisement.

Now one peculiarity of neurasthenic symptoms is that a good percentage might be

classed as illusory, or hallucinatory symptoms. Thus, beginning with the chief obsession and adding the other apprehensions and fears, together with the gnawing pain, and some pain that is usually considered real, you can readily see how it is possible to classify the symptoms into the real and the illusory. I said "some pain that is usually considered real." All of you have had neurasthenics lose their headache, or backache, or palpitation of the heart in the course of an encouraging ten minute conversation with you. It is with the thought of these illusory symptoms in mind that I have felt justified in taking your time with this paper.

The tendency of practice today is more and more along educational lines. By this is meant that the intent, or animus of medicine is more toward prophylaxis, at the same time without receding from treatment. With this intent we have our tuberculosis crusades, our quarantine, our compulsory vaccination of children in the public schools. More than this, the intelligent patient is often taken into confidence by the doctor, who explains to him the pathologic condition, knowing that ordinary medicinal treatment will be more efficacious if he can obtain complete co-operation on the part of the patient. Mild mental cases are treated largely in an educational way, and massage, cupping, diet, baths and electricity are of as much advantage as psychic elements—or if you will allow it—as educational factors, as they are beneficial therapeutically. With your permission let me cite several selected cases of neurasthenia, giving the chief obsession, or major symptom of each, and the means used in treatment. Also to mention case by case, the result of the use of strychnine.

Case 1. Male, age 46. Confirmed neurasthenic for ten years. His mother is a neurasthenic. One brother and one sister are neurasthenics, and he has a neurasthenic daughter. His neurasthenia followed a period of excessive work, very unusual mental strain, and considerable forced loss of sleep. This patient's obsession was a fear of being alone, and of becoming over heated. For ten years he had not gone from his house to his office alone. He had practically lived out doors in winter and in his cellar in the summer to avoid becoming over heated. After two weeks spent with intestinal eliminants, and an every other day interview to gain his confidence, he was given the syrup of the iodide of iron for a moderate degree of anemia, and instructions to drive his horse from his house to his office with a member of the family walking on the sidewalk beside him. After the third day the attendant walked one-half block behind him, and in another week the attendant was dispensed with. He now, at the end of six months, goes about alone and is the picture of health and contentment. His fear of heat was overcome partly by his being told that his tonic would cool his blood, partly by his own regained self control. This patient did better when taking strychnine than when he was without it.

Case 2. Female, age 42. School teacher. Neurasthenia probably acquired gradually over a period of about one year. Grave attack precipitated by the shock of having her school house and many of her belongings burned. Chief obsession, the belief that she was being poisoned by foul air, which she said she could smell all the time, and by the unsanitary surroundings of her temporary school building. Treatment, a daily colonic flushing with cold water, in the knee chest position. The assurance that if she would step into the open air once every half hour, and take 25 complete respirations, that she would store sufficient reserve oxygen to prevent poisoning. This patient was given strychnine so she could taste it, and did well upon it:

Case 3. Male, age 39. Bookkeeper. Case developed gradually. Supposed excess in this case, too close application to ledger. Chief obsession, the fear of killing himself, or some member of his family. He could not read the papers because he saw nothing in them but suicide, murder and sudden death. His insomnia was grave. He was given for three weeks sufficient bromide during the early evening to make him sleep. Also a digestive mixture. He was instructed to lie down for one hour in the middle of the day, to walk instead of taking the street cars, and whenever he contemplated suicide or murder to count fifty, and then go ahead and do it if he could. He reported twice a week

and each time received the assurance that there were signs intelligible to the medical eye that he was better. He made a complete recovery in eight months. Strychnine made this case worse each time it was tried.

Case 4. Male, age 30. Bank teller. Neurasthenia acquired gradually after assuming his responsible position. The money got on his nerves. Chief obsession, the fear of making a mistake, and of having someone discover his fear. He could not count a pile of $5 notes and be sure of his count. Nerve tension was so great that the sweat would drip from his fingers. He was worried constantly by the tremor of his hands. He would awake at night, hold up a hand and if it was reasonably steady he could go to sleep again; if it shook he could sleep no more that night. Treatment, a two weeks' vacation playing golf. He was instructed to add columns of figures twice a day during this time to see if he could make a mistake. During this two weeks he lost his obsession, and in about three more months was normal. Medicinally he had a digestive mixture. Strychnine was exhibited but it invariably made him complain of more nervousness.

Case 5. Female, age 20. Daughter of case 1. Neurasthenic as far back as childhood. No discoverable obsession in the case, it being the one exception to the rule. She has had tubercular glands removed from the neck; is fairly well nourished, and is well developed. She looks tired all the time. There is partial ptosis of the left eyelid, and a high degree of astigmatism, glasses being worn to correct vision. Chief symptom, headache, which in two years treatment has grown less, due partly to correction of vision, partly to better nutrition and relief of preexistent anaemia. Strychnine has invariably disagreed with her. There has been less improvement in this case than in any of the others. She may be what Moyer calls a congenital neurasthenic. Such an one, he says, can be benefitted but little by treatment since the neurons are born tired.

Case 6. Male, age 32. Painter. Past history covering one and one-half years. Formerly excessive user of alcohol. Chief obsession, fear of death from heart trouble. Treatment, potassium iodide for symptoms of lead intoxication. Digestive mixture. Bromide, irregularly, in the evening. Change of occupation.

Repeated explanations of the difference between functional and organic heart trouble, with assurances that his was functional. Strychnine always disagreed with him. He made a good recovery in about six months.

Case 7. Female, age 60. Housewife, with nothing to do. A long time neurasthenic. Has had two major surgical operations to relieve her, and was made worse by each. Chief obsession, fear of Bright's disease because of pain in the back. Treatment, a written set of rules which she promised to read faithfully t. i. d., and repeat after each rule, "I believe that." These rules were merely explanations of her symptoms, each one so worded that it carried assurance of her recovery. Further treatment was by placing her in an easy, restful position, fixing her attention by tiring the eye muscles, and suggesting, for a time, that she was steadily getting better, and finally that she was well. She had seven of these sittings in two weeks, in which time she lost her obsession, regained her nerve poise, and was then continued on a restricted diet, with eliminative treatment. At the end now of five years she is still well. This case did not have strychnine.

Case 8. Male, age 24. Cigar maker. Neurasthenic for nine months. Excessive user of tobacco, as well as worker in tobacco. Chief obsession, fear of falling while walking on the street, fear induced by the feeling of vertigo, and by the sense of muscular weakness in the legs. Treatment, he was instructed to go out alone, to walk alone, and to go and walk whenever this fear was the greatest. He was assured he could not fall if he tried. He stopped work for two months, and quit the use of tobacco. He was given iron for his anaemia, and daily colonic flushings. Strychnine disagreed with him, and even now, after being well for about two months, a few doses will cause the feeling of weakness in the legs.

It is perhaps needless to say that none of these cases knew when strychnine was being used.

Case 9. Female, age 37. Housewife, with nothing to do. Neurasthenia gradually acquired, arising partly from the knowledge of the presence of a uterine fibroid, partly from the actual pain caused by its presence. A very acute exacerbation of neurasthenia followed hysterectomy. This patient complained more of the fatigue symptom than any of the other patients. Her chief obsession was fear of losing her mind. She is a very sensitive, impressionable, nervous organization, is highly educated, is musical, and has the peculiar mind bent that takes pleasure in delving in the mystic, the metaphysical and the supernatural. Treatment was entirely educational. It was repeated over and over again that her mind condition was natural following induced and abrupt change of life. She was given careful explanations of how her mental condition differed from insanity. In about four months her obsession vanished, but now, a year after her operation, she still has some of the vague physical discomfort of the ordinary neurasthenic, due partly, no doubt, to her induced climacteric.

Case 10. Male, age 42. Office man. Brother of case 1. A neuropath. Was formerly an alcoholic, and 12 years ago took the Keeley cure. Neurasthenia probably has existed for a number of years, finally reaching such a degree he could not attend to his business. His chief obsession was fear of dying, not from any particular cause, but from something. He has many times rushed into my office, fallen into a chair and gasped, "I'm dying." When this fear was on him, he would drop everything, work, engagements, anything, and start for my office, as he said "praying all the way that he might live until he reached me." His educational treatment was in openly combating every illusory thought and feeling he had. In forbidding him to talk of his case, or even to think about it. He was an exceptional patient and rather enjoyed open contradiction of his ideas and supposed symptoms. His other treatment consisted of the withdrawal of coffee, sweets, and a large portion of the starches from his diet—for he was a glutton for these things and had a persistent flatulency. He occasionally gets a recurrence of a senseless dread of something for a brief time, but his obsession has disappeared, and he says he is well. He has taken strychnine in large doses with good results.

Case 11. Male, age 40. Office man. A rheumatic of rheumatic ancestry. Neurasthenia for three years. Chief obsession, belief that he had cancer of the rectum. Belief fostered by traveling quack who told him he had serious rectal trouble, and who operated, or pretended to operate, for some condition or other. Treatment, carried out by the patient, daily gradual dilatation of the sphincter muscle. Anti-lithic treatment internally. Educational treatment, reassurance of no serious rectal trouble; explanations of the absence of all signs and symptoms of carcinoma. The obsession disappeared in about two months and now at the end of three years he is well. This case was made worse and his grasp on himself was decreased by use of strychnine.

It may be said that all of these cases had some of the ordinary subjective symptoms of neurasthenia. All complained of weariness or weakness; nearly all had palpitation of the heart, headache, indigestion, constipation, anaemia, loss, or attributed loss of memory, and increased patellar reflex. But one ever complained of tremor and his attention was directed to it by his work. Two complained of cold hands or feet indicating vaso-motor change, but nearly all complained of sweating hands. All but one complained of actual pain in one or another part of the body, and all but one had a chief obsession. It was found that as soon as the patient was free from this chief obsession each one of the lesser symptoms was alleviated or removed. It must not be supposed that this chief obsession can be removed in one lesson. It is exactly like teaching a child whose mentality is decidedly below the average, and the lesson must be re-iterated again and again. The mentality is there in the neurasthenic; he may believe and understand the words you tell him at the time, but he either forgets them, or as in most cases, his psychic pessimism, which arises no doubt from neuron fatigue, is so great that he soon disbelieves. It is desirable to begin the education of a

neurasthenic two or three generations before he is born, but we do not get them then, and we must try and undo the damage done them by their grandparents, and complete the defective education, nervously speaking, given them by their parents. To quote from one author, ([2]Church) "A defective education that omits discipline and the cultivation of self-control, poorly fitting the child for the rude shocks of later life, may be a predisposing cause of neurasthenia."

Again, educational treatment in neurasthenia must be extended to the friends and relatives of the patient. Since we cannot maroon the patient on a lonely isle, with but a single trained attendant, the friends must be forbidden to show great open sympathy and solicitude, and must be absolutely prohibited from asking the patient how he feels.

There is no question that cases of neurasthenia are increasing rapidly. Whether this is due to our strenuous life, the competitive fight in all lines of living, or whether the Caucasian neuron is merely drifting toward degeneration I cannot say. But we must learn that drugs alone will not cure many of these cases. There is no intent to exclude medical treatment. The definition that ([3]Brower) "neurasthenia is exhaustion of the neuron due to defective metabolism" must carry weight, and defective metabolism may be improved medicinally. Medicine may, and should be used to relieve attendant pathologic conditions. Not only medicine in its naked sense, but diet, exercise, massage, rest, hydrotherapy and electricity as each case may need. There is no line of practice where there is greater need of versatility, of individualizing and selecting the treatment to fit the patient.

The point made by McBride in a paper read before the Wisconsin State Medical Society in 1901, is the one I wish to emphasize, i. e. the importance of getting hold of the mentality of the patient, remembering that the patient must be re-created in mind as well as body.

There is no desire to open an argument about the mastery of mind over matter, nor do I know how much a pessimistic view of life, coupled with a firm belief in some calamity overhanging one's head might fatigue and debilitate the neuron, but it is certain that these things are factors in producing the symptom-complex known as neurasthenia and unless by the element of time, or the element of the physician's personality on the patient, or the influence of a counter shock, or impression greater than the chief obsession—all of these being really educational means—the majority of these cases will go uncured unless cured by educational therapeusis.

NITROUS OXIDE-ETHER ANAESTHESIA.

BY WELLER VAN HOOK, M. D.

The thoughtful surgeon who in the course of each year must anaesthetize many human beings is obliged to contemplate with growing horror the inevitable death list of those whose taking off is due solely to his effort to abolish consciousness for a few minutes. Although death takes place from the administration of the major anaesthetics in only one case in 3,500 to 14,000 or 15,000, even this proportion becomes after a while oppressively great and forces the operator to seek new and safer methods. I do not hesitate to say that one of the very greatest needs of surgery at the present moment is to find a simple method of temporarily abolishing consciousness, at once practical and devoid of evil consequences.

Of the principal anaesthetics, nitrous oxide and ether are admittedly the safest and their combination has long been regarded as valuable and comparatively free from danger.

No modern hospital is complete in its equipment without apparatus for administering nitrous oxide gas. It is not necessary to detail the multitude of uses to which its brief anaesthesia can be put.

Inasmuch as gas alone produces a lethal asphyxia in from three to five minutes, oxygen must be utilized when cyanosis becomes pronounced. The addition of about ten per cent of pure oxygen makes it possible to continue anaesthesia with nitrous oxide gas a comparatively long time without much risk. Unfortunately the combination makes necessary a complicated and bulky apparatus. Furthermore, the use of the two gasses is

rather difficult until the anaesthizer by practice has become expert. This difficulty renders it next to impossible to entrust to hospital assistants, whose term of anaesthetic service is necessarily brief, so complicated a duty. If, however, oxygen is admitted to the mask with air from time to time as it is needed, the apparatus demanded can be simplified to a practical point.

The apparatus which the writer uses for this purpose is the ordinary dental outfit, the face being that of Harrington.

The portability and convenience of the steel bottles containing the liquified gas and the inhaling apparatus leave but little to be desired in hospital practice. Instead of the two hundred and fifty gallon bottles used in institutional work, a one hundred gallon bottle weighing approximately nine pounds can be used in private practice.

It was many years ago that the idea was conceived of using nitrous oxide to abolish consciousness, followed by ether to maintain that state. It was early discovered that if air is admitted to the mask after nitrous oxide anaesthesia has been induced, the patient will recover consciousness to such a degree that the ether anaesthesia can be inaugurated only with difficulty, the patient often struggling violently. The ideal way of changing from one to the other of these anaesthetics is by gradually adding ether vapor to the inhaled gas. Various complicated apparatus have been invented for this purpose. They are cumbersome, delicate, difficult to manipulate or fragile. In order to render practical the use of these anaesthetics in combination, the writer has had made a simple cap to contain a piece of gauze saturated with ether, which can be applied to the nitrous oxide apparatus at the moment of making the change, so that no air will be admitted to the mask until after the patient has inhaled the desired amount of ether.

With this apparatus the writer and his associates have anaesthetized many hundred patients with satisfactory results. The combination of nitrous oxide with ether is recommended to all as a comparatively safe, practical, rapid and comfortable method of inducing anaesthesia.

NEWS NOTES.

Typhoid Fever Abating in Chicago.

One solitary death from typhoid fever in a population of nearly two millions is the notable feature of Chicago's health during the week of May 20th.

Diagnosis of this disease in the laboratory, by examination of the blood of suspected cases for physicians in doubt, promises to become a lost art, owing to lack of material. Typhoid fever is growing to be a negligible quantity in Chicago mortality—more markedly since the opening of the drainage channel.

Even the heavy rainfall of May 11—when 2.78 inches fell in twenty-four hours—failed to cause more than a temporary pollution of the water supply. This, however, was sufficient to produce a sharp increase of the acute intestinal diseases, and it is not unlikely that some increase of typhoid may also result.

When the Drainage Channel is complete in all its adjuncts, intercepting sewers, Evanston and Calumet subsidiary districts and full flow of 600,000 cubic feet per minute, only an occasional imported case of typhoid, or a still rarer one from milk, oysters or other infected food, will be left for study by the medical profession of Chicago.

Diphtheria and croup have been reduced 64.3 per cent by the introduction and persistent advocacy by the Department of the use of antitoxin, begun in 1895.

Measles, scarlet fever and whooping cough, with respective reductions of 58.9, 55.6 and 27.2 per cent, have as yet no antitoxins or other specifics for treatment; but much has been done to restrict their spread by disinfections, supervision of funerals and counsel and warning against exposure to their contagion.

Finally, the great increase of sanitary and hygienic knowledge in the community has had much to do with this cutting in half—an average reduction of 51.1 per cent—of the mortality from this group of diseases.

Sickly Octogenarians.

(From the Scottish American.)

They were neither of them brilliant scholars, but they liked to move with the times as regards their knowledge of current events, so the daily newspaper was regularly delivered at their humble domicile, and it was Jennie's duty to read out during breakfast time all the most interesting items of the day. One morning, after wading through the latest intelligence from the front, she turned to another page of the paper and said:

"Herbie, it says here that another octogenarian's dead."

"What's an octogenarian?"

"Well, I don't quite know what they are, but they must be very sick creatures. You never hear of them but they're dying."

Dr. Elizabeth Matthews of Springfield has returned from a short trip to Europe.

The Illinois Medical Journal.

The Official Organ of the State Medical Society.

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THE ROCK ISLAND MEETING.

As was expected the annual meeting at Rock Island was a distinct success. The committee had made ample provision for the sections, the House of Delegates and the exhibitors. The entertainment features were elaborate and pleasing. No stone was left unturned to insure satisfaction to those attending. That a large number were not present is no reflection on the officers or the committees. Those who remained away have much to regret.

* * *

The president's address was such a masterly effort as was to be expected from that medical orator, Dr. William E. Quine. He commanded the close attention of his audience for over an hour and his peroration was a remarkable effort. While the fads and frailties were not spared by Dr. Quine in his address, the achievements and excellencies of medical men were commended in the highest terms. Our readers will find Dr. Quine's address in this issue of the Journal.

* * *

Dr. J. W. Pettit's address, "What we must learn and unlearn in the Treatment of Tuberculosis," was really a part of his report as a member of the special committee of the State Society on the Prevention of Tubercu-

losis. It showed that the society had placed the management of this subject in proper hands and that the great work being accomplished by Dr. Pettit at the Tent Colony at Ottawa will continue to redound to the credit of the society.

* * *

The credit given by both President Quine and Chairman Pettit to a certain official collateral agency that has been of great assistance in the educational work concerning Tuberculosis, was a delightful contrast to the efforts of certain members of this organization to discredit the work of the State Society and its committees and officers. Permanent progress in this stupendous work will be secured only when all professional agencies contribute in an unselfish manner.

* * *

Dr. Fernand Henrotin's address before the surgical section was fortunately heard by the entire membership present at the meeting. The title was "The Commerce of Surgery" and this difficult subject was handled in a most practical and common-sense manner. Dr. Henrotin did not minimize the serious nature of this malady nor was he hopeless of its remedy in the hands of the organized profession.

* * *

The election of Dr. H. C. Mitchell as president was a foregone conclusion and came as a just reward for long and faithful services as a member of the State Society and the Southern Illinois Medical Association. Nearly all the committees were continued and the subject of medical defense was given a distinct impetus by the enthusiastic reception it received in the House of Delegates.

ACTION OF THE HOUSE OF DELEGATES ENDORSING THE DENTAL EXAMINERS BILL.

The House of Delegates on request of the committee from the State Dental Society very properly adopted a resolution asking Governor Deneen to sign the bill creating a Board of Dental Examiners. This action is by innuendo criticised by an obscure Medical Journal in an article on the veto by the Governor of the appropriation for the consumptive hospital. Had the House of Delegates had the slightest intimation that the Governor was unfriendly to this appropriation, action urging him to approve of this appropriation would have undoubtedly been taken. The Journal in question and its backer, seem to have an unexplained antipathy towards Boards of Examiners for the professions. Why the powerful political influence these gentlemen claim to possess was not used in behalf of the appropriation for the consumptive hospital we are not told.

DR. PETTIT'S ENDORSEMENT.

Probably the most far reaching action taken at the Rock Island meeting was the endorsement of Dr. J. W. Pettit for the position of secretary of the State Board of Health. This unusual action of the representatives of the organized profession was made necessary by the distressing conditions existing at the present time. The members, cognizant of the real state of affairs, have long realized that a change was necessary and took the first opportunity after the inauguration of a new administration to urge the appointment of Dr. Pettit, who has the confidence and respect of the entire profession and who will, when appointed, bring about a noteworthy betterment in the conduct of that office.

INDEX TO VOLUME VII.

Volume Seven of the Journal closes with this number but owing to the great volume of work incident to the close of the Legislature, the Journal Company is unable to print it at this time without greatly delaying the issue of the Journal. It will therefore be found with the July issue. The six issues

of Volume VI will be found to contain nearly 200 pages of original reading matter. This is about as much reading matter as the ordinary Medical weekly prints in a half year and is as much or more than the ordinary monthly Journal prints in an entire year. Hence the desirability of having two volumes each year.

NOTICE TO SECRETARIES OF LOCAL SOCIETIES.

We are asked by several of the Councilors to request the Secretaries of County and District Societies to inform the Councilor of the District of the time and place of each of the meetings of the Societies. The Councilors being thus informed hope to meet frequently during the coming year with the Societies in their districts.

VETO OF APPROPRIATION FOR THE CONSUMPTIVE HOSPITAL.

One of the surprises connected with the last session of the Legislature was the veto, by Governor Deneen, of the very small appropriation of $25,000.00, provided by the General Assembly for the establishment of a consumptive hospital.

Governor Deneen had apparently expressed considerable interest in this project and we stated in our last issue the belief that he would probably sign the bill. The Governor apparently selected this, as in his judgment, one of the least pressing of the needs of the diseased and unfortunate inhabitants of the State.

The fact that he took this action shows that the agitation upon this subject, while it has been considerable, still has not been great enough to create an impression as to its necessity. Education upon this matter of course is not so necessary among medical men who appreciate its great importance as it is among the laity who are just beginning to realize what the modern treatment of consumption accomplishes.

The responsibility, in part, at least, lies with the Legislature, it having appropriated money for all sorts of purposes, moved by sentiment or self-interest.

Let us hope that all the world's fairs and state expositions requiring expensive state buildings will have been held before another session and that all the monuments will have been provided for by that time so that the next Legislature will feel free to appropriate money for a purpose which will eventually do more good than any equal sum appropriated for any other purpose since Illinois became a state. In the meantime, let us keep up the agitation so strong that a sum of not less than $200,000.00 will be appropriated two years from now.

News Items.

Dr. S. A. Waterman of Auburn Park has gone abroad until September.

Dr. Y. Davis of Wapella was shot in the back by Mr. Truman Mason. Mr. Mason later committed suicide. The trouble grew out of a personal injury suit instituted by Dr. Davis against Mason.

Dr. Henry Wohlgemuth of Springfield celebrated his 83d birthday May 22 and formally retired from the practice after a career embracing nearly 60 years. Dr. Wohlgemuth located in Springfield in 1845. He graduated from the Eclectic Medical Institute of Cincinnati in 1854. He was born in Hanover, Germany.

When in Doubt.

Johnny—"Pa, do they always have an inquest when anybody dies?"

Wise Pa—O, no, my son. When a doctor has been attending a person there is no need for an inquest. It is only necessary where there is doubt as to the cause of death."—Boston Transcript.

The National Association for the Study and Prevention of Tuberculosis held a meeting at Washington, D. C., May 18. In his opening address Dr. William Osler said:

"In spite of its frivolity, in spite of its size, in spite of its—other things which I hesitate to allude to, New York has set the pace in legislation, institutions, and treatment of tuberculosis."

He declared education regarding tuberculosis was the thing to strive for. He discussed this feature under three heads: Education of the

public, of the physician, and of the patient. The public, he said, was awake, but sitting on the edge of the bed and not yet dressed. In this awakening, however, he asserted much had been accomplished over past conditions. When the public got dressed he predicted that much activity would follow and much would be accomplished toward stamping out tuberculosis.

The education of the medical profession, he said, needed immediate and careful attention. Too little attention is paid to the disease in its incipient stage.

Lastly, the education of the patient himself is of prime importance. A doctor should not hesitate to inform a patient at once of his true condition and should give the necessary data to the treatment, climatic conditions, and mode of life to be followed without restriction.

Dr. G. F. Lydston Upholds Divorce.

In his address before the Iowa State Medical Society, Dr. Lydston said: "Divorce is a fortunate provision, affinity is nonsense, and the legalized marriage does not make it a divine contract."

The Chicagoan also advocated a physical appeal to men and women. He urged this as preferable to the moral and the legal control, arguing that a degraded man or woman had no moral sense and could be more readily reached through appeals to the physical.

"The idea of supposing that a man's judgment is infallible when it comes to marriage," said Dr. Lydston, "is a mistake. Why, it may turn out that either the man is vicious or the woman ill-tempered. And these people raise a family. Do such people have the right kind of children? There is no such thing as affinity. That's all nonsense."

CHICAGO ITEMS.

Dr. and Mrs. James C. Gill, 833 Warren avenue, sailed for Europe recently.

Dr. Laura C. Bates, wife of Dr. H. O. Bates of Long Beach, Cal., formerly of Chicago, is here visiting her sons, Dr. Morley D. Bates and Dr. Carl D. Bates, and their families.

Dr. Mary Weeks Burnett sailed recently to spend the summer in Europe with her daughter, who has been sojourning in India and the orient for some years.

Dr. and Mrs. F. C. Hotz and family, 600 Dearborn avenue, have gone to their summer home, the Pines, Morton Grove, where they will remain during the heated term.

Dr. and Mrs. P. J. H. Farrell and children, 443 Elm street, have gone to their summer residence at East Elmira, N. Y., where they will remain until fall.

Dr. Julia Ross Low has removed from Chicago to South Berwick, Maine.

Dr. E. P. Murdock of 100 State street, Chicago, has been elected medical director of the Illinois G. A. R.

Dr. and Mrs. Joseph W. Wassall, 444 Chestnut street, have gone to Hartsdale, N. Y., where they have taken a house for the season.

Dr. and Mrs. Henry Hooper 541 North State street, will leave about June 25 for a trip to Bar Harbor and Deer Island, Me., and later will go to the Huron Mountain club in Michigan for the balance of the summer.

Dr. Robert H. Babcock has removed his residence to the Hotel Virginia, telephone N. 1692. His office remains at 92 State street. Hours from 1 to 4 p. m. Telephone Central 4900.

Dr. Walter A. Jaquith of 5700 Indiana avenue, Chicago, President of the Chicago Medical Examiners' Association and Professor of Physical Diagnosis at the Post Graduate Medical School, will resign these positions and remove to Newark, N. J., June 1, where he has received an appointment on the medical staff of the Prudential Insurance Company. A dinner in honor of Dr. Jaquith was given at the Union Restaurant May 23 by the Prudential Medical Examiners' Association which was largely attended.

Strenuous Life of Dr. DeVere.

Life at the residence of Dr. Joseph G. De Vere, 1145 Western avenue, has been a continual warfare between husband and wife, according to the bills filed by the two. Mrs. De Vere brought suit for separate maintenance March 10. Her husband replied with a cross bill asking an absolute divorce, and now Mrs. De Vere has answered the latter. All the instruments allege cruelty.

Dr. De Vere coolly informed his wife, according to the petition of the latter, that he would "smash her brains out and wipe his feet on her body," and then would "get somebody to suit him."

Mrs. De Vere attacked her husband, he asserts in his bill, with a medicine chest, books, chairs and a tea kettle, at last arriving at a hatchet with which she threatened to "split his head open." He says he was forced to flee to the neighbors for refuge.

Judge Kavanagh has issued an injunction restraining the physician from disposing of his property and practicing cruelty toward his wife.

Civil Service Rating of Physicians at Dunning.

The county civil service commission have announced the results of the recent examination for senior physicians at the Dunning institutions. The following were placed on the eligible list:

Nervous and mental diseases—Drs. Joseph M. Kearney, Hospital for Insane at Elgin; Ralph C. Hamill, 294 LaSalle avenue; Ernest S. Moore, 291 Ashland avenue; Groesbeck Walsh, 306 Superior street; Benjamin Landau, Dunning; Clara Dunn, 403 South Lincoln street; Julius F. Wen Gieski, 5226 Indiana avenue; Goodrich Snow, Princeton, Ill.; I. G. Blackmer, Dunning.

Tuberculosis— Ernest S. Moore, 291 Ashland boulevard; Benjamin Landau, Dunning.

Medicine—Ralph C. Hamill, 294 LaSalle avenue; Benjamin Landau, Dunning; Goodrich Snow, Princeton, Ill.; Julius F. Wen Gieski.

Chicago Medical Society.

The Medical Society of Cook County, Regular meetings are held every Wednesday evening from October to June at the Chicago Public Library Building, Randolph Street Entrance in the large hall on the ground floor toward West end of the Building. Membership 1512.

OFFICERS:

J. B. MURPHY, 100 State Street .....President
FRANK X. WALLS, 4307 Ellis Avenue .....Secretary
A. E. HALSTEAD, 2937 Indiana Avenue.....Treasurer
W. A. EVANS, 103 State Street.....Chairman Medicolegal Committee
WM. HARSHA, 103 State Street.....Chairman Membership Committee

JUNE, 1905.

CHICAGO MEDICAL SOCIETY.

A regular meeting was held April 5, 1905, with the President, Dr. John B. Murphy, in the chair.

Dr. Jos. Breunemann exhibited a premature infant.

The case was discussed by Drs. Jacob Frank, H. F. Goodwin, and the discussion closed by Dr. Brenneman.

Dr. James B. Herrick reported a case of intermittent claudication.

Dr. Hugh T. Patrick reported a case of intermittent claudication, and exhibited the patient.

Discussed by Dr. John B. Murphy and the discussion closed by Dr. Herrick.

Dr. Joseph L. Miller exhibited a case of gout with myelogenous leukemia.

Dr. R. B. Preble showed two cases illustrating multiple neurofibromata.

Discussed by Dr. A. L. Freund.

Dr. Ugo Biffi (by invitation), director of the Hygienic Institute of Lima, Peru, read a paper and showed photographs of diseases peculiar to Peru.

On motion of Dr. Wm. A. Evans, a vote of thanks was extended to Dr. Biffi for his instructive and interesting paper.

Exhibition of a Premature Infant

My purpose is not so much to show a premature infant as it is to demonstrate what can be done under ordinary circumstances with these difficult cases that are so often looked upon as hopeless.

This child is now 3½ months old, weighs 6 pounds, and gives every evidence of sound health and rather unusual solidity of tissues. From the mother's menstrual history, the baby's birth weight of 3 pounds, its length, development, skin transparency, and general marked fetal appearance, one can properly place the period of intra-uterine life at 7 months. An incubator and woman's milk are usually considered essentials under such circumstances. Neither was accessible at the time, so the baby was wrapped in cotton and blankets, was surrounded by hot water bags, and from the start was fed on completely peptonized modified cow's milk mixtures of whey, cream, cereal waters and milk sugar. At first equal parts of whey, barley water and sterile water with milk sugar (four per cent) were given every hour in teaspoonful feedings. Cream was added slowly, a teaspoonful in 24 hours feeding at a time, at varying intervals. The amounts and intervals between feedings were soon those of a full term normal child at birth. It is now getting 3 ounces every two hours of a modified milk mixture containing 3+% of fat, 1¼% of proteid, and 6½% of lactose. The child has never had a sick day, and only once, for a period of four or five days, were its bowels disturbed, because of an unintentional increase in the amount of sugar to 10%. During the first three weeks, as is the usual rule, the child lost in weight, until it reached 2 pounds 9 ounces. Since then it has gained steadily, making an average gain of 4½ pounds a week. Its present excellent state of nutrition and of health is best shown by the child itself.

It is a great pleasure to be able to show a case in which one can demonstrate in a tangible form the very satisfactory results that one can confidently expect to obtain with our modern methods of infant feeding.

Discussion on the Case of Dr. Brenneman.

Dr. Jacob Frank: I would like to ask Dr. Brenneman if he knows anything about the longevity and growth of premature children, and whether there are any statistics on record as to longevity and growth.

Dr. Brenneman (closing the discussion): With reference to the question of Dr. Frank as to the longevity of these premature infants, I will say that I know nothing about it, nor do I know anything with reference to their stature at a later time. I do not know whether there are any statistics on this subject or not.

With reference to the question of Dr. Goodwin, I will say that my experience has been rather limited in reference to such additional methods of feeding as he has referred to, namely, inunctions of oil. However, I have not found them of very much use as food. In almost all of these cases, if one can get them to take anything the other way, it is of so much more value than what we can get by means of inunctions. The more experience we have in cases of this sort, with percentage feeding, the fewer are the cases that do not yield to this alone. I have had myself practically no beneficial results that were traceable to inunctions or any of the methods mentioned.

CASE OF INTERMITTENT CLAUDICATION.

By James B. Herrick, M. D., Chicago.

The patient I had hoped to present this evening was in such a condition that it was impossible for me to bring him before you, but Dr. Patrick has a case that he will show to you, and it will enable me to say a few words concerning the patient I had hoped to exhibit.

My patient showed the typical symptom-complex that is spoken of as intermittent claudication, that is, intermittent limp or lameness, which occurs when the patient walks a greater or less distance. He is a Hebrew, 45 years of age, who a little less than two years ago noticed that on walking he had stiffness and pain in the calf of the right leg, and also some pain in the right foot. He was obliged to stop walking and to rest for a short time, after which he could continue walking again. A little later than that he noticed a change in the color of the feet on walking. After walking a short distance the right foot would become pale or, "as white as a sheet of paper," as he expressed it. He suffered a great deal of pain under these circumstances. Four months later he had similar symptoms in the left foot. The pain annoyed him not only on walking, but on change in the position of the foot, particularly if it were elevated, so that we may assume the blood did not circulate as freely in the foot as it should. The pain became worse, and finally, when he came under my care, two months ago, he was suffering pain paroxysmally, even when he did not walk, or even at times when he was quiet in bed.

There is one other thing I would mention, and that is, about three months ago a small ulcer appeared just at the inner side of the nail of the right great toe, which gradually increased in size and was the seat of more or less burning and pain, which later the patient described as almost unbearable. A smaller ulcer appeared under the nail of the little toe of the right foot. The ulcer on the great toe kept increasing in size, until the pain finally became so unbearable that a few days ago an amputation was made of the great and little toes. This relieved the pain somewhat, but the patient has suffered a great deal since, and it is on account of the suffering that he refused to come down tonight and show himself. The wounds also are not doing as nicely as they might. The edges of them are sloughing.

The symptom-complex of intermittent claudication was first described by Charcot, in 1859, in the human being. It is illustrated in the patient whose history I have presented. That is, the patient on walking experiences pain in the calf of the right leg, with stiffness in the calf of that leg and pain in the foot, so that he continues to walk with a limp. The other symptom was extreme pallor of the foot on walking. When we come to examine these patients, as in the case of the patient whose history I have just related, it is rare to find a pulsating artery in the foot. Examining below the external malleolus, or in examining the dorsal artery of the foot, it is rare that one can feel the artery pulsating. Neither one of the arteries of the foot of my patient could be felt in any position, and several physicians examined the patient repeatedly.

I desire to call attention to the fact that in this case no sclerotic change could be made out, either in the foot of the leg or of the arteries of the wrist. The heart was not enlarged, and there were no physical signs of sclerotic changes in the aorta or in the coronaries. He had had one slight attack that might possibly be construed as an angina pectoris. It is interesting to notice that these cases of angina pectoris depend, the majority of them at least, on sclerosis of the coronary arteries. In my patient's case the arteries could not be made out as sclerotic. It is noteworthy, however, that at the time of the amputation, no hemostats were necessary. There was merely a trifling oozing of blood. The pallor of the skin which the patient described on walking could be clearly seen. If we elevated the foot, it would become as white as a sheet of paper, and at the time these circulatory disturbances were prominent the patient complained bitterly of pain.

So far as the pathology of the condition is concerned, I believe Erb was the first who did very much in this line of work, and who was inclined to limit it strictly to arterio-sclerotic cases, and we shall speak of intermittent claudication as an angio-sclerotic affection. In six cases described, distinct angio-sclerotic changes have been made out in the vessels, and in his last article Erb states that he has seen over forty cases. He admits, however, that in a few of them no demonstrable sclerotic changes could be made out, and in some he is positive that the circulatory disturbances were of an angio-sclerotic character. This is in harmony with the views advanced by Oppenheim, who declares that in some cases an angio-spasm rather than an angio-sclerosis is to blame. There are circulatory disturbances in the nerves; also in the muscles, etc. These are believed to be the pathologic basis of this condition, and Charcot believed that when the patient attempted to walk, the overdemand made for a flow of blood could not be met by a partially sclerosed and partially obstructed vessel, and therefore pain was complained of.

In this case, as in several others, local gangrene or death of the part, such as the skin and

some of the deeper structures, has occurred. There are definite and unmistakable trophic disturbances as well as circulatory and vaso-motor, and it is certainly not an easy matter to draw the line between the condition I have described and true Reynaud's disease. If we add to these circulatory and vaso-motor phenomena, trophic disturbances, we have something that closely approaches Reynaud's disease. Certainly in the case I had, considering the appearance of the toe and the painful phenomena, I could not deny that it resembled closely Reynaud's disease, even though in Reynaud's disease we do not have obliteration of the arteries, and even though in Reynaud's disease there are perhaps in the majority of cases phenomena in the tips of the fingers, tip of the nose, ears, etc.

These are the main points that are to be brought out in connection with my case, and I shall ask Dr. Patrick to enlarge upon them when he shows his case.

I wish to say a word about the treatment in this case. Blood pressure was low. In one radial the pulse was less than 100, using the Riva-Rocci instrument to measure it. In the other it was 110. Strophanthus was used in large doses. Digitalis, even though it contracts the peripheral vessels, was used in combination with nitroglycerine, adrenalin and the nitrites. Warm foot baths have been used, but absolutely nothing has relieved the patient's pain except morphine, which has been absolutely necessary. Amputation of the toe was done at his urgent solicitation. He really wanted the foot cut off, and that perhaps will have to be done, but nothing in the way of treatment has seemed to give him any relief whatever.

INTERMITTENT CLAUDICATION.

By Hugh T. Patrick, M. D., Chicago.

This patient came in from Montana after I had received a program of this evening's meeting, and I thought it such a beautiful example of this disease that it would be a pity not to bring him here for you to see.

The man is 36 years of age. He gives no specific history whatever, but has received large doses of mercury and iodide of potassium. The first symptom appeared four and one-half years ago, in the form of a small short streak of inflammation in the left thigh. I suppose that it was a phlebitis, although I do not really know, because I have had no adequate description. There was an area about two inches long and very narrow that was qutie painful, but this disappeared in a couple of weeks. The same thing occurred in the right thigh. He had nothing more of the kind for a considerable time, during which period he was well. He is a merchant by occupation, and felt nothing out of the way until about three years ago, when he had a recurrence of this suppositious phlebitis, which confined him to bed for a time. After the fourth attack of this suppositious phlebitis he noticed the first symptoms of intermittent claudication. He could start to walk briskly, his legs felt strong, but very soon they became exhausted or very weak, so that he would have to stop; and he told me that what seemed to him surprising was that if he would sit down and rest even for half a minute he could resume walking with comparative comfort again, for a short stretch, when he would again have to rest. A year ago there appeared a small ulcer between the fourth and fifth toes of the left foot, which was very slow to heal. About the same time there appeared between the fourth and fifth toes of the right foot a sore, which was larger. This did not heal, although he applied all manner of household remedies. Finally a surgeon thought it would be a rational surgical procedure to curette this ulcer thoroughly and bandage it up. He did so, and when the bandage was taken off the sore was larger than it had been. Still it would not heal. Then, there was presumably some infection. Two of the toes were amputated, and when the bandage was taken off after amputation it was found the flaps had not united. There was no sign of healing. Some more tissue was cut off and again, when the bandage was removed, there were no signs of union in the flaps. Some stitches were put in, with the hope of closing the wound, but it would not heal. Finally the foot was amputated and that time the flaps united but very slowly, and there was an ulcerated surface left for many months. He has still intermittent claudication, which is not much worse than it was a year or two ago. I will have him walk down the aisle for you to see. You will notice that he can start fairly well. I had him hop up and down on one foot in my office, and he hopped about thirty feet fairly well, and then he could not go any farther. I call your attention to the color of the foot, when he takes his shoe and stocking off. In the beginning it was white. The slight pressure of the shoe and stocking squeezed out all the blood. He did not want to take his shoe and stocking off because if the foot gets cold it is very uncomfortable. When he hops all of the venous blood appears to be forced out, and there is not sufficient arterial blood coming in to retain the color of the foot.

As in Dr. Herrick's case, pulsation of the arteries in the lower extremity are not to be felt below the groin. You will observe that after pressure the circulation is very slow in coming back, and if the femoral artery be compressed in the groin, it will be about two minutes before the little white spot where I press my finger becomes pink, showing that the circulation is very poor indeed.

Aside from the legs, examination of the circulatory system is practically negative. The femoral arteries feel small and rather hard, but they have not the nodular, uneven feel of ordinary sclerotic or atheromatous vessels. His pulse at the wrist is compressible. The heart is normal, and otherwise I believe he is all right.

Let me say a word or two regarding a method of treatment, which I have mentioned to the patient. I refer to the recent treatmen of Raynaud's disease, hit upon independently by Cushing, of Johns Hopkins, and by Dr. Moyer of this city, which consists of the application of a bandage or constricting band. Cushing was led to it because he had noticed that after application of the Esmarch bandage there was yaso-

motor paresis and the vessels became over-full of blood. He tried it in Raynaud's disease. An elastic bandage is applied around the extremity sufficiently tight to constrict the veins but not the arteries. I have hesitated to recommend this treatment, inasmuch as the patient is going back to Montana to-morrow, because if the bandage were applied a little too tight and left on a little too long, it would be a very easy matter to get up a thrombosis of one of the large arteries in his leg, as the femoral, with resulting gangrene: a very unpleasant consequence for patient and physician. But I think that with sufficient care the method might be tried, with the idea of dilating the vessels to a certain extent. But whether it would be successful or not is problematical, because the **modus operandi** of the disease in these cases, as Dr. Herrick has indicated, is decidedly obscure. One of the reasons why I am afraid of compression of the arteries is this: Compression of the carotids is one of the best possible diagnostic means or aids in senile epilepsy. It is not at all difficult in many cases of senile epilepsy to induce a fit by compression of the carotids; a method which was exploited some years ago by an Italian physician, who dwelt at great length and with considerable emphasis upon its value, and incidentally remarked that in one of his cases he was unfortunate enough to cause arterial thrombosis in the brain causing permanent hemiplegia. I have used that method a few times, but have always done it with a sort of "gone" feeling in the epigastrium, for fear I might have a repetition of that physician's experience, and it was that idea which lingered in my mind when I hesitated to recommend compression of the limb in this case.

Discussion on the Cases of Dr. Herrick and Dr. Patrick.

Dr. John B. Murphy: I would like to ask some questions. First, as to the presence or absence of sugar in the urine at any time in the history of the case reported by Dr. Herrick.

Dr. Herrick: There was none.

Dr. Murphy: Second, I would like to ask as to the condition of the arteries. If I remember rightly, you spoke of an angio-spasm at the time of the amputation of the toe and that the operation required no hemostats to control the hemorrhage. Where was the amputation made?

Dr. Herrick: Just about the foot.

Dr. Murphy: The angio-spasm does not seem to affect the arteries to the extent of interfering with their power to emit blood during amputation. I recently saw a patient with the symptom of intermittent claudication, a man 32 years of age, who complained of pain and fatigue in walking for only a few weeks before he appeared at the hospital. He was admitted to Mercy Hospital December 29, 1904, suffering from pain and swelling in both of his feet. Examination showed that he had gangrene up to the middle of the right leg. The lower half of the left foot was swollen and edematous, with a small area of dark discoloration on the plantar surface. His urine was examined for sugar that night, shortly after he was admitted to the hospital, and sugar was found. The doctor who examined him the night previous to his admission to the hospital was unable to find sugar, and there was no sugar at any time subsequently to the operation in the urine. Erythrocytes, 5,280,000; leukocytes, 9,200. A week or ten days later we amputated the leg above the knee and it required only one ligature, that on the femoral artery. He had extreme eudarteritis of the popliteal, hyaline degeneration, round cell infiltration of media, thrombus formation. The left leg looked as though it was certain to become gangrenous, and on account of a discoloration that appeared on the sole of the foot at the end of 24 hours, I thought the limb would have to be amputated. However, the swelling disappeared, the limb was anemic for a number of days after the foot had been elevated and it finally regained its natural color. It became normal, although no arterial pulsation could be detected in the ankle or foot.

We had two other conditions, one spasm anemia and the other compression of the subclavian artery, as in the supernumerary cervical rib cases, one which Dr. Patrick showed a short time ago, and which was such a conspicuous symptom in the case I operated. We have the same condition in spasm of the vessels in patients who come to the surgeon for a preliminary examination, where the hand has been exposed or put in cold water, causing an anemia as profound as anemia due to compression of the vessels. In other words, one a condition from the spasm and the other from anemia from compression of vessels. In the case amputated there was no evidence of artitis, myocarditis or arterio sclerosis, radial pulse not easily compressed popliteal and general pulsation normal on left side. He has a very pronounced fatigue in walking on left leg since the operation.

Dr. Herrick (closing the discussion): In regard to the questions asked by Dr. Murphy, I will say that in the case I have under observation repeated examinations were made for sugar in the urine, and none found. I do not know how many examinations were made after the patient was admitted to the hospital, but no symptoms resembling those of diabetes were found. He was examined by one or two physicians outside, and sugar was not found by them. In some cases, however, with the symptom-complex of intermittent claudication, diabetes has been present. In Erb's article he mentioned two or three cases in which distinct diabetes were present.

The cause of the circulatory disturbance may be varied. It is believed that it may be due to spasm, or is it due to sclerotic or endarteritic changes, but in some cases, and, strangely enough, in Charcot's first case, it was due to obstruction from traumatic aneurysm. The man was shot, or had received a punctured wound in the left side of the abdomen, and there was a traumatic aneurysm of the iliac. There was a partial obstruction of the circulation in that one leg, and the symptoms of intermittent claudication made their appearance. Nothnagel has described cases similar to this of intermittent circulatory disturbance in the upper extremity that apparently resemble the one Dr.

Murphy spoke of as being due to a cervical rib.

In speaking to a surgeon the other day regarding this particular case, he said he remembered that the late Dr. Gunn, in lecturing on Potts' toe and senile gangrene, spoke of what he called the leg tire that these patients experienced. Perhaps Dr. Murphy remembers that. These patients with senile gangrene and arterio-sclerosis complain of weariness in the legs. They give out, and they speak of it as leg tire. He looked upon it as the forerunner occasionally of gangrene of the toe.

An interesting fact which neither Dr. Patrick nor I brought out is the one that a large percentage of these cases of intermittent claudication have been seen in the Hebrew race. Why that is is not perfectly clear. It has been thought by Erb that the excessive use of tobacco by the Hebrew, particularly cigarette smoking, might be accountable for the arterio-sclerotic changes. Both Dr. Patrick's case and mine belong to that race.

Discussion on Dr. Preble's Case.

Dr. A. L. Freund: I would like to ask Dr. Preble whether the emaciation shown by these patients is due to the presence of these numerous tumors. I had a case of this disease, some years ago, in a man somewhat advanced in years, who was very much emaciated, and the tumors were similar in size and number to those noticed in the older of these two patients, and, as Dr. Preble has stated, the fibromata produced no appreciable symptoms; in the case that came under my observation, so far as I could learn, they did not affect the health of the patient. The man underwent a severe surgical operation quite late in life, and made a good recovery. See page 388 for Dr. Preble's paper.

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At a meeting of the Chicago Medical Society, held April 12, 1905, the following papers were read:

1. The Choice of Ether or Chloroform, Methods of Administration, Dangers and After-Effects, by Dr. H. D. Peterson.
2. Spinal Anesthesia, by Dr. A. E. Halstead. See page 389.
3. Scopolamin-Morphin Anesthesia, by Dr. Emil Ries.
4. Nitrous Oxid Anesthesia, by Dr. Weller Van Hook.
5. Nerve Blocking and Cocaine-Adrenalin Anesthesia, by Dr. Wm. E. Schroeder.

Discussed by Drs. Rosalie M. Ladova, E. W. Ryerson, J. R. Pennington, J. B. DeLee, O'Neill, Wm. H. Wilder, A. Goldspohn, A. Belcham Keyes, Bertha Van Hoosen, Robert J. Gay, Peterson, H. M. Richter.

GENERAL ANAESTHETICS, ETHER AND CHLOROFORM.

By H. D. Peterson, M. D.

The relative value of any anaesthetic depends chiefly upon its safety. Its safety is measured by, first, its toxicity and whether it is a stimulant or depressant. Second, the experience of the administrator.

Physiological experiments have demonstrated that chloroform is a cardiac depressant, is toxic in its action, and lowers nerve energy.

Ether, on the contrary, is a stimulant to the heart muscle and is less toxic and depressant to the system generally than chloroform.

Statistics given by Hare show the death rate of chloroform anaesthesia to be 1 in 3162, while that of ether is 1 in 16302. It is therefore a logical conclusion that as a general anaesthetic for all purposes, in the hands of skilled and inexperienced administrators, ether is more than five times as safe as chloroform.

Ether is safer than chloroform for the following reasons:

First, it gives warning in ample time to avoid serious results, consequently death from ether is almost invariably due to carelessness or inexperience on the part of the anaesthetist.

Second, its deleterious effect is chiefly upon the respiratory centers rather than upon the heart, and respiratory embarrassment is more amenable to treatment than cardiac.

Deaths from chloroform occur in three ways, and nearly always in the first stage. At the beginning of the anaesthetic administration there may occur a sudden spasm of the chest muscles causing a rise of intra-thoracic pressure and venous congestion follows. A deep inspiration may now follow and the blood in the lungs is heavily charged with chloroform vapor. The heart now receives this fresh supply of blood and it being laden with chloroform vapor the heart muscle is at once paralyzed by the toxic action of the chloroform and dilation and engorgement follow. (Hare's Therapeutics, Vol. 3.)

If the death comes later in the anaesthesia it is due to the poisonous effect upon the brain centers, the vaso-dilators allowing the capillaries to become engorged and the patient bleeds to death in his own blood vessels.

The third manner of death from chloroform is by paralysis of the respiratory centers. In the hands of an expert, chloroform may be free from many of its dangers but under the same conditions, ether is safer.

No anaesthetic should be given without careful watching of the patient, but as ether anaesthesia does not require so close attention to the patient as does that of chloroform, and as most anaesthetics are given by those of limited or no experience, it follows that ether is the safer anaesthetic of the two.

Choice of Anaesthetic.

This must be guided by the time consumed in the operation, the physical condition of the patient and the experience of the anaesthetist.

A statement by H. C. Wood that "so dangerous is chloroform and so safe is ether that there is no excuse for the use of the former under ordinary circumstances" has much of truth in it. If the operation is of short duration, chloroform may be used, as by its more rapid action the patient is not subjected to so much shock as by a more prolonged anaesthesia with ether, but there are other anaesthetics safer than chloroform which may be used in short operations.

The condition of the patient may indicate or contra-indicate the use of one anaesthetic in preference to another. The experience of the anaesthetist should have much to do with deciding what drug should be used.

Indications and Contra-Indications—Ether.

Pulmonary diseases (bronchitis, emphysema, tuberculosis), chronic Bright's, arterio sclerosis are said by some to be contra indications for ether anaesthesia. When properly given these objections do not hold good.

In cases where bronchitis is present the irritation to the mucous membranes is said to be more marked when ether is used than when chloroform is the anaesthetic. My personal observation is that there is not quite so much.

Emphysema and tuberculosis of the lungs and arterio-sclerosis are not contra-indications to ether, but extra caution should be used.

While the kidneys eliminate ether, it has been shown by recent research[1] that the ill effects produced by it upon the kidney is only temporary if at all. In fact such trouble is in many cases due to an infection previously existing in the system.

Chloroform.

There are many reasons why chloroform should not be used in certain cases. Among these are shock, as if from accident, in which the vital energy is lowered and chloroform would still further depress. A heart weakened in its muscles or valves is an unsafe condition for chloroform.

The Experience of the Anaesthetist.

Ether should be the anaesthetic for the beginner, as chloroform is unsafe in the hands of the inexperienced. The claim advanced by some surgeons that in laparotomy chloroform anaesthesia produces better relaxation of the abdominal muscles than does ether is not proved. If any rigidity occurs it is because the patient is not surgically anaesthetized. The conclusion is that for the majority of cases in which general anaesthesia is required ether and chloroform are the only ones to be used in prolonged operation and that ether is preferable.

Methods of Administration.

Since anaesthesia by ether requires the inhaled air to be mixed with at least 80 per cent of the vapor, while anaesthesia by chloroform requires air having but 5 per cent of the vapor, it is plainly seen the methods of administration of the two drugs differ from each other.

Ether should be always be given by the closed or nearly closed method. By this I mean the use of a cone which nearly excludes the air. The best form, to my knowledge, is the Allis inhaler, which if properly made allows the bandage strips with which it is wound to come closely enough to each other to allow but a small current of air to pass through and does not allow ether to drop upon the face of the patient and allows continuous application. An improvised cone made of card-board and filled with cotton serves equally well.

Chloroform should invariably be given with a plentiful admixture of air, sudden inhalations of air heavily charged with chloroform vapor are very liable to produce syncope and death. A simple mask or handkerchief is sufficient.

Technique.

The preliminary routine, examination of urine and physical condition of the subject having been made, the anaesthetist should seek to gain the patient's confidence, which is of extreme importance, as the excited stage may be shortened or prevented and less anaesthetic is required. Fear of being rendered unconscious by some drug in the hands of another often works against the best results in anaesthesia. Especially is this true of children, and by assuring such subjects that no injury is intended we have gained an advantage.

The cone should be placed over the mouth and nose without any ether upon it and the patient told to breathe naturally. After he is accustomed to the cone a few drops of ether are added in order that he may become used to the vapor and also because by beginning with a very small quantity his fear is done away with and some of the objections urged against ether are thus avoided, viz.: coughing, strangulation, irritation and burning sensation of mucous membranes of nose and mouth.

At first the patient becomes flushed, especially about the neck, and a little later excitement may follow, but by skillful administration this period can be very much shortened and the quiet which follows is soon superseded by complete relaxation and surgical anaesthesia. Here again the experienced anaesthetist can show his skill by keeping the patient just beyond the point where surgical anaesthesia began. Very little ether is required from now on and the process of "soaking" the patient is entirely wrong and unnecessary. By keeping the pupils dilated slightly above normal but so they react to below normal under bright light, keeping the head turned to one side to allow mucus to run past the larynx, the head extended at proper angle to allow freedom of entrance of the air and ether vapor, the best results are obtained.

An anaesthetist cannot or at least should not attempt to give an anaesthetic and watch he operation at the same time. By continually watching a subject, the one who gives the ether will be enabled to give the smallest quantity required for surgical anaesthesia and it is his patients who recover the most rapidly, often becoming semi-conscious before leaving the operating table. The inattentive anaesthetist subjects his patient's life to great risk.

The slow, gradual method for ether is the best and I think the practice of saturating a cone with ether, clapping it over a patient's face, holding him to prevent struggling, is not true anaesthetizing, but a process of suffocation, and should be condemned. There is no advantage except the gaining of a few minutes of time for the surgeon, but this should never be weighed against the patient's safety.

No advantage is gained by the open method of giving ether; rather there are disadvantages, viz.: partial recovery during operation, the excited stage is longer and there is a waste of ether. If the patient shows the necessity for pure air the cone can be removed at intervals and indeed I believe this is good routine practice in each case. As a rule too much ether is given and it is probably true that in the first one hundred cases twice as much is used as in the second one hundred cases.

Chloroform.

Is always given in open method on a mask or padded handkerchief. The same general rules are here followed as for ether administration. The gradual slow dropping of the chloroform at first, increasing gradually until the stage of surgical anaesthesia is reached and then adding the minimum amount required.

When using chloroform the anaesthetizer should at all times watch the pulse of the patient as well as the color as shown in the face, by so doing he may be able to avoid serious results. A good general rule to follow is: watch the respirations in ether anaesthesia (and by this I mean watch and not listen to it), watch closely the pulse and color of patient's face in chloroform administration.

Indications of Surgical Anaesthesia.

These for both chloroform and ether are as follows:

The patient gradually becomes more quiet, the pulse rate at first rapid, becomes slower, falling from as high as 130 to 150 to nearly normal; the respirations which in the beginning are irregular and shallow are fuller and more rythmical, the pupils slightly dilate, the color, at first dark red or bluish, fades.

The abolition of the reflexes, especially the conjunctival, in fact the condition simulates one of a normal deep sleep.

So long as these conditions remain present the best anaesthesia is maintained, and but very little anaesthetic is required from time to time.

Indications for addition of more anaesthetic are movement of eye-balls, return of conjunctival reflex, sighing respiration or attempts at vomiting.

Dangers.

(a) Ether. There is very little attendant upon ether anaesthesia if it be properly given. Inspiration pneumonia, or strangling from lodgment of foreign bodies of food in the larynx need not occur if the patient has been properly prepared and questioned as to artificial teeth.

By keeping the head of the patient turned to one side or other, always on the one away from the field of operation, the unpleasant results of the entrance of mucus into the pharynx can be avoided. The necessity for use of mouth gag and tongue forceps is a reflection upon the ability of the administrator.

(b) Chloroform. Has more dangers than ether. Syncope is quite apt to occur, the first symptoms being a feeble fluttering pulse, a ghastly pallor, blueness of ears and finger tips, sudden dilation of the pupils, and respiratory embarrassment. The chloroform should of course be removed, the patient's head lowered, legs raised to assist in the return of blood to the heart, artificial respiration, hypodermic injections of heart stimulants, etc. Shock is more profound if more chloroform than is necessary is used; that in itself is danger.

Asphyxia may also occur in chloroform anaesthesia; the mode of treatment is plain.

Recovery.

The time for patients to recover from a general anaesthetic varies from a few minutes to several hours, depending upon the dose given and sometimes upon the individual himself. The minimum dose is followed by the quickest recovery.

Careful watch should be kept of an anaesthetized subject until complete return to consciousness and when he is able to clear his own mouth of mucus.

For the vomiting which may or may not follow, such things as cologne water, smelling salts and the inhalation of vapor of vinegar or acetic acid are often used with excellent results.

Stimulants should be used when indicated. Heat to extremities and body if shock is profound. The use of normal saline solution aids in the elimination of a general anaesthetic.

Regular meeting held April 12, 1905, with the President, Dr. J. B. Murphy, in the chair.

Symposium on Anaesthesia.

Discussion.

Dr. Rosalie M. Ladova: Mr. Chairman, members present: In the year 1900, March 31, the Journal of the American Medical Association published a report of 101 cases of anesthesia administered by me in my service as interne at the Woman's and Mary Thompson Hospitals of Chicago.

I started the work for my own edification as I was painfully conscious of the scanty store of knowledge I carried with me on the subject of anesthesia from the college, especially when I considered the great responsibility of my work at the hospital as anaesthetist. The data for the tables which formed the basis of my study were jotted down on scraps of paper, sometimes on the sheet covering the operating table. This was quite a task, as I often gave five and six anaesthesias in one afternoon. The number of cases reported was about one-half of that given.

Notes were taken as to duration, pulse and respiration range, condition of the pupils, gastric irritation, how soon anaesthetized, how soon out, and the amount of the anaesthetic.

The normal ratio of the pulse and respiration was disturbed in almost every case, and the changes in one are quite independent of the changes in the other. In 48 of the series vomiting was present, in 38 absent. In the rest no record was obtained.

Ten to 15 minutes was the average time to induce anaesthesia; to try to secure it in much less time means to shut off the air before the patient has lost consciousness and cause a smothering feeling, which is anything but humane.

The time it took the patients to come out corresponds more to the amount of the anaesthetic consumed than to the duration of the anaesthetic. The stage of excitement was present in only four cases.

I urged the necessity of trained anaesthetists in hospitals and colleges to oversee and instruct the beginners. I heartily recommend this line of study to every conscientious interne and cheerfully refer you to my original tables. Jour. Am. Med. Ass., March 31, 1900.

Dr. E. W. Ryerson: I am greatly interested in anaesthesia for short operations, such as the cutting of tendons. In 1898, I saw Hewitt, of

London, use nitrous oxid with success, and also bromid of ethyl. In my experience, covering 125 cases, the bromid has been perfectly safe, attended with no bad results, and so simple and easy of administration, that it ought to be used more than it is. The small tube contains enough for an anaesthesia of about five minutes. Take an Esmarch chloroform mask, place a layer of oiled silk on the outside of the gauze (it is not decomposed like rubber); pour the contents of the tube into the mask, place it over the face, and the patient is asleep in four or five breaths. There is no struggling nor disagreeable symptoms.

I have done a number of tenotomies and other operations, some of which lasted ten minutes, without the patient being sensible of any pain. He comes out from under the anaesthetic in about five minutes, feeling only a little dizzy, as after the administration of nitrous oxid. I have rarely seen a patient vomit. It is quick, safe and worthy of trial.

Dr. J. R. Pennington: I regret that Dr. Schroeder was not present to read his paper, as I desired to present this specimen in connection with the discussion on "nerve blocking."

It occurred to me some time ago that if the nerves leading to the rectum and anus could be "blocked" that we could dilate the rectum and proceed with many of the operations in this region without putting the patient to sleep. With the assistance of Dr. Eckley of the College of Physicians and Surgeons, I found that it is possible to quite successfully block the nerves supplying this region. By examining this specimen, which I injected with a solution of methelyn blue, you will see that the inferior hemorrhoidal nerves are well surrounded with the solution. To surround these nerves with the solution the needle of the syringe is introduced about one inch external to the anus and carried outwards and backwards towards the posterior border of Alcock's canal to a point about one inch above the inner margin of the tuberosity. To anaesthetize the deep part of the perineal nerve the needle is then carried forward to the region of this nerve. The opposite side may be treated in the same way. To anaesthetize the perineal branches of the fourth sacral and other nerves posterior to the anal canal, the needle is introduced in the posterior median raphe and directed first to one side and then the other and the solution deposited. The entire region may be anaesthetized from this point, thus necessitating only one skin puncture. If the analgesia is not quite complete at some points it may be supplemented with infiltration analgesia and the operation proceeded with painlessly.

With regard to giving nitrous oxid and ether: When I was at St. Mark's Hospital in London 12 years ago, this method was practiced quite extensively. I saw Mr. Cooper do seven operations on the rectum in one afternoon, in 80 minutes. Each patient walked into the room, got on the table, was anesthetized, operated on, carried out, instruments washed, and he was ready for the next patient; a little over 11 minutes for each operation.

Dr. J. B. De Lee: In my obstetric operations I use chloroform exclusively, and in abdominal work I always use ether. The patients I operate on are always women in the prime of life, and, therefore, I have had no mortality.

Dr. O'Neill: There is a method of giving nitrous oxid by using a mask that covers the nose only, and by opening the mouth, it closes the pharynx, and the air passes in through the nose. The patient breathes automatically. (Exhibited Dr. Richardson's device for holding the mouth open.)

Dr. Wm. H. Wilder: In connection with Dr. Ries' paper, I should like to sound a note of warning. Some years ago, scopolamin came to the attention of ophthalmologists as a mydriatic and cycloplegic. It was found to be an admirable drug; it acted promptly; could be used in small quantities, and it paralyzed accommodation as completely as atropin. It was used widely until we came to have serious symptoms, and that only from dropping the drug into the eye, not stronger than a 1% solution, as a rule. I had in my practice a very serious case of poisoning.

Any attempt to use the drug in an extensive way by hypodermatic injection for anaesthesia, should be carried out with considerable caution.

I should also like to emphasize the value of ethyl chlorid as an anaesthetic for short operations. I have had some experience with it and have found it extremely valuable. It is superior to bromid of ethyl, in that the startling cyanosis is not present. It must, however, be used in an appropriate apparatus, such an one as is made by Meyrovitz. If used with the ordinary inhaler, one is apt to get such rapid congelation of moisture on the inhaler that the patient does not get the vapor, but with this apparatus, it can be administered easily and effectively. For short operations on children it is ideal. I have also used it as a preliminary to ether narcosis with success.

Dr. A. Goldspohn: With regard to the most commonly used agents, chloroform and ether: The first essayist made the statement that opening the mouth with a mouth gag, or attemping to hold it open, was rather a reflection on the anaesthetist's ability. That is a very bad policy to pursue, especially as most of the anaesthesias with these remedies are not given by experts. What he says may be true to a certain extent, but if that policy be pursued, then every one who gives an anaesthetic, whether he knows anything about it or not, will keep the patient's mouth shut, whether he has the head bearing on the occiput or turned sideways. The result of that often is very bad.

In the first place, we do not know how well the patient breathes through the nose, or how much the naso-pharynx may be obstructed under normal conditions when the patient is not anaesthetized. Then there comes to that some additional obstruction from the anaesthesia, and the patient does not get his normal supply of air, the mouth being closed. I have seen this so frequently, and in the hands of men who were quite satisfactory in their work generally. Everything becomes perfectly satisfactory by simply opening the mouth and holding it open. And I cannot see anything cruel in that. It is

usually not difficult to open the mouth, and it is easily held open by means of a grooved rubber wedge. The tongue is completely under control, better than merely by holding the angles of the jaw. If mucus accumulates, as it does more or less, with every anesthesia, it can be removed readily. The danger of inhaling mucus that becomes infected from the mouth is removed. So that I think that this idea of not being quite proficient unless you give an anaesthetic with the mouth closed is a mistake.

Dr. A. Belcham Keyes: This subject has more value in its discussion than appears on the face of it. Anaesthesia, as a rule, with either ether or chloroform, is so frequently unsatisfactory, that one hails with a good deal of pleasure experiments with other anaesthetics, with the hope that it will eradicate the dangers, especially of chloroform. And yet in those dangers we are not always justified in blaming it on the anaesthetic entirely. In some of the hospitals with which I am acquainted it is usually the most youthful and inexperienced member of the house staff who gives the anaesthetics, and that is not right. Also, many surgeons even have their anaesthetics given in private practice by a medical student or nurse, and his or her idea of anaesthesia is often only that he must get the patient under and keep it under till the operation is completed.

It is very necessary that we should know first the quantity and time necessary to produce anaesthesia, and then to know when the patient is sufficiently under. I gave chloroform for years in hospitals, and I always followed the pupillary reflex. I have done hundreds of anaesthesias for major operations, never even keeping the pupil entirely contracted, and never finding any necessity for dilatation, except in those few cases where the reflexes of the body must be abolished entirely, as in impacted shoulder in transverse presentation. Anaesthetics should certainly only be given by people who carry diplomas and are duly qualified.

Dr. Bertha Van Hoosen: I was very much disappointed that Dr. Van Hook did not speak of nitrous oxid anaesthesia as anaesthesia by itself, and not as an aid to ether anaesthesia. A few months ago I reported about thirty cases in which nitrous oxid was the only anaesthetic used and a large number of the operations were quite long in duration, some an hour and a half. Yesterday I operated on a patient who had a femoral hernia which had been treated by the injection method. The operation required an hour and a half, and was immediately followed by plastic work on the vagina, the entire operation lasting one hour and fifty minutes. The patient was 58 years of age, and had an organic heart lesion. Before the bandages were put on she was perfectly conscious. There was no nausea or vomiting; she urinated and had several evacuations of the bowels during the first twenty-four hours.

I think one reason why there is so much fear of nitrous oxide for long anaesthesias is that the patient becomes cyanosed. In ether anaesthesia cyanosis is a danger signal, but not so in nitrous oxid anaesthesia. Three whiffs of air do away with the cyanosis. I have never seen a patient who would not have a very good color after three whiffs of air during nitrous oxide anaesthesia.

Dr. Robt. J. Gay: I am rather disappointed at the attitude Dr. Keyes took with reference to the interne giving anaesthetics. You cannot rely on one sign or symptom. I have seen professional anaesthetists watching the pupillary reflex of a tabes dorsalis patient and wonder why he was going to the bad.

At St. Luke's Hospital we give 5-600 general anaesthetics during the two years service, and we give as good an anaesthetic as the man who operates every day successfully and has not given an anaesthetic for thirty years.

I want to say that the jaw should not be opened. When the jaw is open and the tongue is not pulled out, the patient cannot breathe through the mouth. If we hold the jaw forward, the tongue comes up. The youngest patient I gave an anaesthetic to was six weeks old; the oldest 96 years, in a series embracing about 580 cases in two years.

I do not think it is fair to get after the interne just because he is beardless and youthful. We all have to learn and we must learn some time. The beardless interne is often more fitted to give an anaesthetic than the bewhiskered operator, who either never learned how, or has forgotten how.

Dr. William Fuller, in closing the discussion, said: I would indorse all that Dr. Bevan has said with reference to nitrous oxide anesthesia. My experience, as stated in the paper, with reference to this kind of kidney surgery, has not been large, and this method of anaesthesia had not occurred to me, but I regard the suggestion an excellent one.

I also indorse what Dr. Eisendrath has said, but it is not always easy to determine whether or not there is hemorrhage; it may be absent altogether, or may be present owing to some other condition.

Shortly after operating on this boy I came in contact with a case which appeared to be similar to the boy's case; the symptoms were similar, though more pronounced, particularly with reference to pain and tenderness. I lost no time in operating on this case and was chagrined to find that the renal wound or injury was very slight, and one from which he would have promptly recovered without an operation. He had a very trivial wound of the kidney, from which a slight hemorrhage had taken place, and which was responsible for the symptoms above referred to. In reference to the injury to the peritoneum, it is quite common, but in the boy's case such was not evident.

Dr. Peterson (closing the discussion): The patient should always be instructed to breathe naturally. Many breathe through the mouth, and should be allowed to inhale the anaesthetic that way, and then you will not have any trouble. If there is trouble, it is because the anaesthetist is inattentive.

Dr. H. M. Richter (closing the discussion for Dr. Van Hook): The mouth gag cannot be used

with the apparatus shown because the anaesthesia is to be continued with ether. The object of the paper was to bring out the use of the gas preliminary to the use of ether. Dr. Van Hook uses nitrous oxid entirely in all short operations, some lasting as long as ten or twenty minutes.

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A clinical meeting was held April 19, 1905, with Dr. Norval H. Pierce in the chair.

Dr. Frank X. Walls exhibited a specimen of atalectasis removed from a very young infant.

Dr. John L. Porter reported and exhibited a case of upper cervical spondylitis.

Discussed by Dr. Ryerson.

Dr. Ryerson showed a case of tubercular cervical spondylitis.

Dr. M. J. Seifert read a paper entitled "Traumatic Cerebral Diabetes," and presented the case, which was discussed by Dr. Allen W. Gray and, in closing, by Dr. Seifert.

Dr. Charles S. Williamson reported and exhibited several medical cases, including one of aneurysm.

Discussed by Drs. Mix, Grinker and Williamson.

Dr. Charles L. Mix presented a case of eccentric hypertrophy of the base of the skull.

Discussed by Dr. Grinker, and, in closing, by Dr. Mix.

Dr. Carl Beck showed a patient upon whom he operated for neuralgia of the fifth nerve six years ago, the patient having been entirely relieved.

Adjourned.

ATALECTASIS.

Dr. Frank X. Walls: I have here a specimen removed from a baby who died this morning. The child was six weeks old. Last Sunday the child had a spell of nervousness; it became a little blue, and had a convulsive seizure which lasted several minutes. After that time the baby was rather pale and weak. Early this morning it had a similar spell, and died. The only other feature of note is that it had not gained in weight since its birth. It was rather pale, and after these spells became a little puffed around the eyes.

The specimen, as you will observe, shows the thoracic organs with the trachea and tongue. We have here a posterior view of the organs which shows the left lung in a relatively normal condition, with the exception of a small patch of atalectasis. There is to be seen over the lower lobe at the base a spot of about an inch by an inch and a half, this portion of the lung being atalectactic. There are a few smaller spots of atalectasis in this lung. As to the right lung, the upper middle and lower lobes are completely atalectatic. There are many small sub-pleural hemorrhages in the atalectatic lung.

The other organs were comparatively negative, with the exception of a slight edema of the subcutaneous tissues and a little serous effusion into the peritoneal cavity, the pleural and pericardial cavities.

The specimen is interesting in that it shows such an excessive degree of atalectasis, that involves one lung entirely and that this condition had existed from the time of birth without attracting attention to the fact that there was any extensive organic disease. Such cases, however, are not infrequent in which there may be very extensive areas of atalectasis with almost no symptom that would suggest such a condition until a convulsion or sudden death occurs, and one is surprised to find the greater part of the lungs have not expanded.

CASE OF UPPER CERVICAL SPONDYLITIS.

Dr. John L. Porter: The patient I show you is forty-five years of age, and by occupation an expert accountant. He was referred to me on the 10th of November last by Dr. J. L. Miller. Two years and a half before the patient came to me, that is, three years ago the coming summer, patient had an attack of what he called rheumatism. He noticed that this neck was getting stiff; there was considerable pain about the neck, and pain through the distribution of the cervical nerves. The patient made his own diagnosis, and after finding he did not get better under his own treatment, he went to the magno-mud baths at Attica, Indiana, and took a course in mud baths. Following that he went to work as bookkeeper, in the meantime trying one thing and another for his rheumatism, as he called it. Again, he went down to Attica and took another course of magno-mud baths, and thought he felt a little better after these baths. He came back from there and went to work after three or four weeks of that treatment. Later he had so much discomfort, radiating down the shoulder and into his arms and neck, and his back became so stiff, that he had to lean on his desk like this (illustrating) and support his head while he was at his work.

He had practically no local treatment or a careful examination made before he went to Dr. Miller. An examination was then made, and Dr. Miller, suspecting what the trouble was, had an X-ray picture made, after which the patient was referred to me. I have brought along the X-ray picture because it shows the condition so much better than usual. You can look at both.

So far as the history is concerned previous to the onset of this trouble, I will say it is absolutely negative. The patient's family history is negative. The patient himself had never been sick or had to quit work previous to the onset of the present trouble. November 10th, when he first came to me, motion in the neck was nil. He came into my office and sat waiting for me a few minutes before he came into the consultation room, and leaned back against the wall. When I opened the door and asked him to step into the consulting room he immediately took hold of his head in this manner (illustrating) with his two hands, and lifted his knees in order to get up out of the chair, and walked into the office holding his head in the position I have shown you. He had no motion of the head, and muscular rigidity, which was so marked about the neck, extended clear down to the lumbar region. The muscular rigidity of the neck, of the thoracic and spinal muscles, was intense, and the slightest motion was guarded against in every way. He complains of some pain, chiefly in the left shoulder, but he has had pain in both shoulders. The head was held with the chin

down and inclining slightly to the right. That was the position so far as I can imitate it—not a very marked torticollis, but enough deviation to make diagnosis positive. There was marked induration of the tissues along the cervical spine. I made a clinical diagnosis of a spondylitis of some kind in the cervical spine, and then an X-ray picture confirmed the diagnosis.

I sent him home and put him in bed, with head sling and pulley at the head of the bed, with a three or four pound weight on the end of the rope, so as to make traction. Traction was kept on for about four days, at the end of which time the spasm had let up enough so that I put on a plaster of Paris collar, extending up under the occiput and chin, and spreading down over the shoulder. That plaster collar was worn for one week, when it was taken off and sent to the instrument maker to have a model made for this leather collar. During the time the leather collar was being made, traction was applied and kept up for another week. This leather collar was then put on and worn until the 1st of December. During the time he wore this leather collar it became evident to both of us that what he had gained in bed with traction was being lost. So, in discussing the case with Dr. Miller, who again saw the patient, we decided it was best to defer the use of the collar until we had tried weight and pulley traction for a while longer. He went to bed the first of December with three to five pounds weight on his head. The head of the bed was elevated a little. He stayed in bed without even sitting up, with traction applied from the first of December until the first of March. When he first went to bed he had, besides the signs I have enumerated, paresthesia and loss of power in both arms, one being worse than the other. The right was the better. Sensation in the arm was impaired, particularly in the distribution of the ulnar nerve. Sensation along the course of the ulnar nerve in both arms was very poor, but in the distribution of the radial nerve it was fair. He had increased reflexes both in the arms and legs, including ankle clonus and a distinct increase of the knee jerks. He had impairment of sensation in various parts of the legs, not as good as normal, yet not as poor as they were in the hand. From the 1st of December, when traction was put on, until the 1st of March he made steady and rapid progress. On the 1st of March, when he was allowed to get up, and the collar was again put on, power had returned in both hands, so that they were much stronger than when he went to bed. The area of paresthesia in the distribution of the ulnar nerve had disappeared. He had no pain through the shoulders, and the ankle clonus had entirely disappeared, but the knee jerks were still slightly exaggerated. On the strength of this, I let him up gradually, and applied the collar a second time. At the end of two or three weeks he went down town. He now goes down at about eight o'clock in the morning and comes back at half-past five. Motion in the neck has returned. There is absolutely no sign of muscular rigidity about the neck or spine. He is perfectly comfortable, goes about his business, and walks up and down stairs without any discomfort. He gets out of bed in the morning without his collar and gets into his trousers standing first on one leg and then the other, which he has not done for two years. He is gradually improving in every way. He has gained in weight remarkably while in bed under treatment.

I wanted to show you this case while the patient is still under treatment, so you may see the apparatus that is used to immobilize the cervical spine. It supports the head comfortably and he is able to move his head but very little with the collar on. I do not consider that he is perfectly well. I have not considered leaving the collar off yet, because I think if I did so he would begin to go down hill again.

This case has interested me on account of two or three features. First, the excellent X-ray plate we have confirms the clinical diagnosis beautifully. I have never seen an X-ray picture of a case of caries of the spine that shows the area involved as distinctly as this does. Judging from the location of the hyoid bone in the plate, I think the disease is limited to the first four cervical vertebrae. Second, the case has interested me because of the rapid improvement under treatment, considering the fact that he has been a sufferer for at least two and a half years, possibly longer than that. Another thing is the fact that he has improved so rapidly, although he is an adult, because the prognosis is not said to be as good in adults as it is in children. I believe that this patient will get perfectly well. I do not believe, however, that he will ever have as good motion in his neck as he had before he was taken sick. The prognosis in these cases is said to be better when the disease involves the cervical region than when it implicates the lower regions of the spine, but in cases in which the disease involves the upper cervical region, say in the first two vertebrae, it has been considered bad, on account of its proximity to the vital centers of the cord. The danger from pressure in case of destruction of the odontoid process is said to be considerable. The change in his condition since last November is so marked that I cannot help thinking that he is on the road to recovery.

Discussion on Dr. Porter's Case.

Dr. Norval H. Pierce: I would like to ask Dr. Porter as to the temperature in his case?

Dr. Porter: I know very little about the temperature. I think it was taken once or twice early in the disease and found to be a little above normal; but it has not been necessary to keep it up, and as the patient was treated at home, without a trained nurse, the temperature was not watched.

Dr. Pierce: I suppose a specific history has been absolutely excluded?

Dr. Porter: Yes, sir.

TRAUMATIC CEREBRAL DIABETES; PRESENTATION OF A CASE.

By M. J. Seifert, M. D.

Instructor in Medicine, College of Physicians and Surgeons, University of Illinois; Visiting Surgeon, St. Mary of Nazareth Hospital, Chicago.

As the pathology of diabetes mellitus has ever been one of the most elusive problems of medicine, and as its etiology will remain obscure until the physiological processes of carbohydrate metabolism are better understood, a report of this

kind is of interest, and should tend to stimulate further research.

The pathological theories of Cohnheim, Thompson, von Recklinghausen, Auschuetz, and other observers are well known, and their experiments have enriched medical science.

The view that diabetes mellitus should be classed among the neuroses is amply substantiated by reports of Purdy, White, Higgins and Ogden, Saundby, Lorand, and other scientists.

The etiology of the following case is significant:

E., a typical Chicago boy, 16 years of age, excellent family and personal history, fell down an elevator shaft, striking the floor head first, excoriating the skin surfaces over the right frontal and malar regions. Unconscious one hour, and stupefied seventy-two hours. Urinalysis showed sugar in less than twelve hours after accident. Daily analyses revealed the presence of sugar for eleven days longer. Patient took an easy job about sixty days after receipt of injury, and remained employed for almost two years; but the gradually increasing debility, emaciation, polyuria and depression of spirits induced him to seek medical advise again, when there was 7% of sugar in his urine, and the daily output varied between 7 and 30 pints. Numerous urinalyses since showed sugar in quantities ranging from a trace to 7%. The symptom-complex of diabetes mellitus grew more marked daily. The treatment was medicinal and dietetic, the latter being the more satisfactory as to results. In spite of any and all therapeutic measures, the prognosis is becoming graver and graver from day to day. The patient is now nearly twenty years old and in a deplorable physical condition —the merest shadow of what he was four years ago—a rugged, energetic, and rosy-cheeked boy of great promise to himself and his parents.

Discussion on the Case of Dr. Seifert.

Dr. Allen W. Gray: I am very much interested in Dr. Seifert's case, owing to the fact that it has been already in the courts for damages as the result of my advice to the lawyer in charge of the case, who incidentally mentioned to me that he was to have the patient's case the next day in court. In speaking about the loss of sight, he stated that he had sued the owner of the premises where the lad was employed for loss of sight as the result of a fall in consequence of an unprotected elevator. He went on to state the particulars of the case and the circumstances, I said to him: "Why don't you make the greater include the lesser, and why don't you sue for diabetes, a far more serious disability, as the result of the fall?" He said he did not think of that. All he knew was the boy was blind in one eye. I said that if you consult the doctors in the case, you will find you will have an A No. 1 case; you can prove diabetes as well as loss of sight and will undoubtedly get a heavier verdict. He went into court and got a verdict of $10,000 as the result of the fall. There was one point, as I understand it, that was overlooked, and that was that previous to the injury the boy was rugged, robust, while now emaciated and debilitated; that he had lost some thirty or forty pounds as the result of this trouble.

I have been interested in these cases for some time, as in my work as examining surgeon for pensioning of old soldiers, injuries of the head frequently come up, and I have noticed cases of diabetes following, which could only be attributed to injury or injuries of the head. It is a mooted question as to whether one can always demonstrate the cause of diabetes back to the fourth ventricle or not, but I would not be at all surprised in the near future to find all cases the result of some neurosis, some brain trouble, behind the pancreatic or liver trouble, and that back of the whole thing there will be found trouble in the brain centers.

In reference to the remarks made by Dr. Gray, I will say that I gave Mr. Arnold Heap a full history of the case, including the existence of traumatic cerebral diabetes. The lawyer hesitated about bringing up the question of diabetes, fearing it would cause strife among medical experts, and being sure of a good case on the ground of total blindness alone. This blindness is not caused by diabetes but, presumably, by the fracture of the apex of the right orbit. The patient is now under the care of Dr. Karl Herz.

Discussion on the Cases of Dr. Williamson.

Dr. Charles L. Mix: The first case presented by Dr. Williamson was shown with the statement that there was no evidence of any specific infection. The value of little things is very excellently illustrated in this case. As the patient stood beside my chair, the extremely small size of his pupils first attracted my attention, possibly because I always look at pupils in aneurysmal cases to note whether there is a possibility of specific infection. And when, as in this case, I note extremely narrow pupils, I am of course immediately driven to the examination of the knee-jerks. This examination, made at my suggestion by Dr. Ryerson, showed them to be absent, and when Dr. Grinker kindly tested the pupillary reflexes, they were found to be rigid. Further interrogation by Dr. Grinker disclosed a history of lancinating pains, so that we have in this case the unusual combination of tabes with aneurysm; and if we adopt the teaching of Erb, in which I fully believe, we have very clear evidence that there has been an antecedent specific infection in this case. We have the association, at any rate, of a disease (tabes) which is metasyphilitic in the vast majority of cases, and of a process which has led to dilatation of the arch and to an aortic insufficiency. It was Lancereaux who first called attention to the association of aortic insufficiency and tabes, and subsequently attention was called to a greater or less extent to the association of aneurysm and tabes. This case is exceedingly interesting on account of that double association.

Dr. Julius Grinker: The patient presented by Dr. Williamson has tabes beyond any question. He has the Argyll-Robertson pupil, loss of knee jerks, lancinating pains in the lower extremities, the Biernacki sign, etc. The diagnosis of tabes here has been made upon a consideration of the classical signs of that disease.

Dr. Williamson (closing the discussion): I am greatly obliged to the gentlemen who have

discussed the case for bringing out several points which have arisen since I have had the opportunity of seeing this case. I saw him for the first time three or four years ago, and in the year or so which followed my first examination he was made the subject of several clinics. I saw him for the last time at a clinic held, I think, in the latter part of last summer. The history of his case had been taken with unusual completeness up to that time. Here, as in every case of aneurysm, the pupils were carefully watched, and no inequalities or myosis were present, and the reaction to light was perfect. The knee jerks were present, but somewhat diminished. At that time no pains were complained of, excepting such as could be properly attributed to the aneurism itself. As the condition of the pupils and light reflex were especially examined for any possible changes, and specifically noted as normal, it can be stated positively that the pupillary changes now present have developed since last summer. I telephoned the patient this morning to come down to the society this evening, and have had, therefore, no opportunity of examining him. I shall take the first opportunity of going over the nervous system with care, and comparing it with the previous findings. As to the question of a syphilis having existed, that is a question which depends largely upon the belief of the examiner. While admitting the very frequent relationship of syphilis and tabes, I do not belong to those who believe that tabes is practically invariably a meta-syphilitic disease. The question of syphilis was very carefully gone into, and as I have stated, nothing could be found definitely indicative of it.

Discussion on the Case of Dr. Mix.

Dr. Julius Grinker: We are to be congratulated on having such an interesting case presented to us, because we are far from knowing all about the deformities of the skull bones as well as the enlargement of other bones. Marie, as we all know, has described acromegaly very well, and we have seen cases of it, and when they are so typical that anybody on the street can diagnose them, they are usually called acromegaly. This case, of course, is not one of acromegaly, but its particularity recalls the other disease. In connection with it I am reminded of a case that came under my observation which presented an enlargement of the frontal bone, not of the inferior maxilla—large ears, rather prominent mouth, and hands that look like spades, with a peculiar shape of the foot. No reflexes were elicited at the knee, and there appeared to be a double Babinsky. Patient had suffered from headache and spells of dizziness. During one of these spells he fell off a ladder and was brought into the hospital unconscious. A diagnosis was made of cerebral trauma and by mere accident the bony enlargements were discovered. I then thought of an atypical acromegaly. However, he has not any of the other signs of acromegaly. Upon closer observation it was discovered that the patient was having a marked case of tabes and general paresis, the so-called tabo-paresis of the Germans. I have not seen or heard of a case of tabo-paresis with enlargement of the frontal end of the cephalic bone and of the hands, and with the peculiar shaped foot as observed in my case. Would it be a hypertrophic exostosis of the frontal bone and of the bones of the hands, or would it be a case of general paresis complicated by acromegaly? It is such atypical cases of bone enlargements that we occasionally find. Dr. Mix's case is extremely interesting on account of its association with the Basedow symptom-complex.

I should like to ask Dr. Mix, what was the condition of the superficial and deep reflexes, and whether we have some nervous trouble in addition to the so-called hypertrophic exostosis.

Dr. Mix (closing the discussion): In answer to Dr. Grinker's last question, I will say that I have previously examined the patient carefully for nervous trouble, and that I found none. The pupils reacted perfectly to light and accommodation. Convergence was normal. There is a slight wobbling of the eyeball which might suggest nystagmus; but to me it does not; it suggests rather a certain amount of paresis due to muscular strain on account of the bad position of the eyeballs. These are the only nervous manifestations, together with tachycardia and extreme restlessness. I should have mentioned family history shows that she is the second one other point, namely, that the history of the patient as given to you is absolutely good. The child of a family of five, in which no miscarriages occurred. There is absolutely no possibility of luetic infection in this case, and the case in general creates no suspicion of that condition. I ought also to have mentioned one other point which escaped me in summarizing her case, and that is attacks of vaso-motor disturbance. These attacks are not unlike hyperidrosis, which come on in cases of Basedow's disease. She tells me that a cold sweat stands out on her forehead, during which the tremor increases as well as the tachycardia. These attacks belong to the vaso-motor type, and are undoubtedly associated with a general trophoneurosis, of which the bony enlargement is a local manifestation.

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A regular meeting was held April 26, 1905, with Dr. Wm. L. Baum in the chair.

There was a symposium on gonorrhea. Papers were read as follows:

1. The internal treatment of gonorrhea, by Dr. David Lieberthal.

2. Remarks on the local treatment of gonorrhea in the male, by Dr. R. R. Campbell.

3. Complications of gonorrhea in the male, by Dr. Wm. T. Belfield.

4. Analysis of some methods of diagnosis and treatment of gonorrhea, by Dr. L. E. Schmidt.

5. Impotency and sterility due to gonorrhea, by Dr. Frederick Leusman. See page 549.

6. Gonorrheal urethritis and cystitis in the female, by Dr. Gustav Kolischer.

The symposium was discussed by Drs. A. W. Baer, Arthur Dean Bevan, E. A. Fischkin, Geo. Rubin, A. Belcham Keyes, David Lieberthal, Wm. T. Belfield, Frederick Leusman, and Gustav Kolischer.

Adjourned.

INTERNAL TREATMENT OF GONORRHEA.

By David Lieberthal, M. D., Chicago.

In enumerating the balsamics, Dr. Lieberthal dwells upon a preparation composed of Kawa-Kawa and East Indian sandal wood oil, known under the name of "Gonosan." The capsules were administered, two to three, after meals. From the observations of his dispensary and private patients, he also finds that the preparation lessens pain on urination and erection; but the other claim of various authors namely, that it prevents complications, cannot be confirmed, because the number of patients developing complications was not smaller than those showing complications by other methods of treatment.

Dr. E. A. Fischkin: I believe the aphorism is ascribed to Ricord: "Man contracts gonorrhea; the Lord knows when it will terminate." Oberlander says in his text-book of urethroscopy that he was never able to prevent an acute gonorrhea from becoming chronic and an anterior from developing into a posterior. If authorities of this magnitude are so pessimistic in regard to the treatment of acute gonorrhea, how can we hold more optimistic views? To my pleasure of listening to the master paper of Dr. Belfield was therefore added the satisfaction of hearing him say that he knows not of any internal treatment of gonorrhea. How shall we explain the action of internal remedies? The oils and balsams which we employ do surely not act on the whole economy, either through the nervous or vascular system; we don't use them in gonorrhea of other organs, in gonorrheal ophthalmia or rheumatism. The best claim which is made for them is that the resin-acids which they contain combine with the alkalines of the organism and form a soluble resin-soap, which by passing with the urine exerts a local astringent or bactericidal action on the urethra. But what little effect can we expect of this action, if there is any. If we let our patients drink water in large quantities, or if we give them diuretics, the resins in all probability become so diluted as to have no effect at all, and if we restrain them from drinking they will pass so little urine that it will hardly affect the urethra. If we consider how little satisfaction we obtain from the local application of drugs, the bactericidal action of which is known, and which we can employ as we please in any concentration, and at any length of time, we may realize how little we may expect from internal remedies, the principle of which and mode of action are problematical. No wonder that many of the best authorities are against any treatment of acute gonorrhea.

There is an article in the last number of the American Journal of Urology, of Prof. Zeissl, of Vienna, in which he corroborates the statement of the older Zeissl, that if we would treat gonorrhea in the same way as we treat other infectious and inflammatory diseases, that is, by rest and antiphlogistics, it would heal spontaneously without injections or the use of internal remedies. Gonorrhea is a self-limited disease which heals with and without treatment, and I don't believe that we can take any pride in treating and in curing an acute gonorrhea.

But it is different with the chronic forms. If a patient has suffered from gonorrheal urethritis for a year or more, and we cure it in a few weeks, we may safely contribute the result to the treatment. In regard to these, I would like to make a few remarks. With Dr. Schmidt, I would warn against the Jannet irrigations after the so-called Valentine method. The harm I have done my patients, the complications they have received were from copious irrigations by hydrostatic pressure. Since I used a catheter for these irrigations, I have not experienced any complications. The recurrent flow of the catheter has no mechanical force to injure the organs of the posterior urethra. I use a grooved metal catheter which can safely be sterilized and easily introduced, if of suitable size.

The essayists have not mentioned the method of dilating irrigations. I believe that in certain forms of chronic gonorrhea this method gives the best results, namely, in those in which the urine contains small but thick and heavy curved threads, coming from crypts and Littre glands. We accomplish here more by stretching the urethra and forcing the irrigation fluid into the folds and glands.

Dr. George Rubin: I wish to record my experience in connection with this symposium on gonorrhea. I have treated forty cases of acute gonorrhea in the last three or four years, and many chronic cases. In all my irrigation treatment I encountered but one complication—epididymitis. In four cases following the use of the catheter, there was an ascending nephritis in one, cystitis in one, and epididymitis in another. I have not used the catheter since. By using the irrigation method, the germs that are carried upwards are always in a very dilute form. The antiseptic effect of solutions of permanganate of potassium or of silver salts renders them harmless. I do not think anyone can use the catheter in these cases without doing more or less damage or causing complications. The catheter carries up the pus in a concentrated form. Out of my irrigation treatment without the catheter there was only one complication in thirty-six or thirty-seven cases.

Dr. A. Belcham Keyes: I have been interested in the various papers that have been read tonight in this symposium on gonorrhea, and after hearing the discussion and comparison of the results of treatment, I was reminded of the remark made by Stromeyer, in which he stated that it was a notable fact that the common private soldier recovered with a comparatively small amount of treatment, while the officer, who demanded to be cured quickly, usually had some complication. I have not read the original article of Stromeyer, but I have seen that remark quoted by others. Such a remark necessarily must be accepted cum-grano-salis.

I was interested in hearing Dr. Kolischer's remarks, and I feel that we cannot attach too much importance to the diagnosis. There are three points in the female that stand out as pathognomonic in their importance: viz. the implication of the urethra and the two Bartholinis glands, on either side outside of the

hymen, and about a finger's width above the fourchette. Puetech claims that these points especially should be examined in the so-called vulvitis of little children and whenever we find the implication of these Sanger's three masculae-gonorrhoica it is our duty to institute a microscopic examination as a proof of the disease, which if proven demands the searching out of the criminal source of child infection.

It would have been a little more interesting to the members of this Society, and certainly it would to me, to have heard more discussion on the views expounded by Dr. Belfield as to the existence of Noegerrath's disease, described in his able article in 1872. While gynecologists do not , as mentioned by one of the speakers, find gonococci as large as fleas in every case, yet I assure you in our experience Noegerrath's disease does cut an enormous swath in the diseases of women, and it cuts a very wide swath in those cases that come under the headings of dysmenorrhea, abortion, sterility, etc. When we remember that there is a normal secretion from mucosa of the tube under normal circumstances and that the excess of health mucus drops harmlessly into the abdominal cavity, while in the so-called catarrhal conditions that Noegerrath has described which may travel upwards and set up an endometritis and then endosalpin, it is with an excess of tubal secretion. On opening this abdominal cavity we frequently find the tubes filled with mucus dropping or ready to drop into this cavity. Just how infectious this (Noegerrath's) mucus is, it is difficult to say. We find a swollen mucous membrane and usually a patent tube, with excessive apparently innocent mucus, but we may find also something in the way of spider-web adhesions in the pelvis with a more or less tendency to involve the ovaries. In fact, sometimes these cases are followed by abscesses of the ovary, the so-called corpus luteum abscesses or in higher grade of infection cysts. I am firmly of the belief that Noegerrath's disease should be recognized as a disease of itself, but just how to lay our hands upon the pathology and describe it as it should be described is very difficult.

The mere fact that we are not able to describe it clearly gives us no moral right to put it to one side and I believe with a more general discussion with reference to the lesions by those who treat the disease in the male as well as by those who treat the disease in the female, we would have a clearer understanding of one another's views and much good would result.

Dr. David Lieberthal (closing the discussion on his part): I did not prepare to have a fight tonight, nor to indulge in personalities. With regard to the remarks of the gentleman who criticized my paper, I will say that I will not lie for anybody or for anything. I have been familiarizing myself with medical literature in every line, so far as I could. Every man who is reading medical literature in the best journals knows that this preparation has been used by men of standing, as von Zeissl, whose reputation and honesty cannot be doubted, also Lohnstein, and by other urologists in Europe and prominent urologists in Chicago and elsewhere in the United States. The Doctor said that he saw some similarity between my article and others. That is natural, as I have quoted different authors and cited their names. I have used this preparation both in my private practice and in clinical work, and my colleagues have done the same. Does Dr. Baer think that the German government would stand for such a thing as allowing a preparation of this kind to be put on the market if the same is likely to cause injury to the public? If he thinks that, he is very much mistaken. He should investigate and he will find that people are in that respect much better protected over there than here.

At a meeting of the Chicago Urological Society, held in February, I read a paper, and I repeat what I have said before, that nearly every member of that Society had used this preparation and was favorably impressed with it. I did not come here to advertise anybody, or to show anyone a favor, but to make a plain statement in reference to my experience with this agent, and therefore I have nothing to apologize for.

Dr. Belfield (closing the discussion on his part): Dr. Bevan's explanation of the origin of rectal stricture seems plausible. If it be true that rectal stricture is far more common in the female than in the male, then his explanation of it is a foregone conclusion. It certainly is true, as Dr. Bevan said, that the general trend has been to ascribe rectal stricture to syphilis.

As to his question, Is the treatment of gonorrhea any more satisfactory now than it was twenty years ago? I answer emphatically in the affirmative. I am not particularly optimistic in therapeutics; I do not expect a gonorrheal patient to get well in a week, nor in two weeks; I tell him that if he is well in a month, he is more fortunate than the average patient; and that if he gets well in two months he has nothing to complain of.

But we get more satisfactory results with the modern silver compounds than we did with the ancient mineral astringents, of which the injection Bron was the best known.

Dr. Leusman (closing the discussion on his part): I regret very much that no member has expressed an opinion as to whether he agreed with me in my sentiments or not, so I am left guessing. Or does silence mean assent?

I will take this opportunity to express my gratification at the liberal discussion we have had this evening on this subject in general. I agree with much of what Dr. Kolischer has said, and I am quite sure that if his remarks with regard to treatment are carried out, they will bear fruit. Urethritis in the female, I am quite sure, is practically untreated in many instances. It is referred to in our wonderful text-books, and whatever instruction is given is useless; the treatment recommended and used has been largely that of swabbing the urethra with iodine or carbolic acid, which is about the worst thing the gynecologist can do for his patient.

I would like to ask Dr. Kolischer to state in detail the strength of the urethral suppositories he uses, their length, whether an inch long or shorter? How much cocoa butter he uses in each one; how much argyrol in each one; how much cocaine in each one, and whether the patient after instruction is to use the suppositories herself or the physician?

Dr. Kolischer (closing the discussion): In the first place, I want to say that the remarks of Dr. Bevan are satisfactory, in regard to recognizing a condition which is recognized by gynecologists, namely, the frequency of rectal strictures in the female. This condition has been recognized by surgeons and gynecologists and ascribed by some to gonorrhea, especially in women who have a torn perineum, the gonorrheal discharge originating from the vagina and flowing back into the rectum, re-infecting it.

Another source of infection recognized first by French surgeons and gynecologists is by intercourse with individuals infected with gonorrhea. If we look over the literature and reports from France, we will find more cases reported than from any other country in Europe. Pathologists explain these strictures in the female exactly in the same way as they explain the formation of strictures in the urethra of the male. There is infection with gonococci; after a while, invasion by microbes of the lower parts, with secondary infiltration and the formation of rectal strictures. These strictures are very important, not only on account of the obstructive symptoms they produce, but they are attended with considerable discomfort, on account of the careless and indiscriminate use of bougies.

I saw a woman die following the insertion of one of these bougies. She had a stricture of the rectum, and the bougie was inserted in such a way that it penetrated the meso-rectum and terminated in a fatal peritonitis.

As to the remarks of Dr. Baer, the gynecological part of them, I am sorry to know that there is still a man who fights against the fact that gonorrhea is one of the most serious and one of the most frequent infections of the female sex. If Dr. Baer would go a little further in his assertions and invent a paper similar to fly paper for catching these gonococci as large as flies, he would be one of the greatest benefactors to humanity since Christ was born.

In answer to the questions of Dr. Leusman, I called attention to the fact that the suppositories should be of a certain length. I did not go into details, as I endeavored to make a few concise remarks, touching essential points, rather than going into details. If Dr. Leusman desires to get detailed information, I would call his attention to my repeated publications on this subject, which began in 1888 and have continued until the present time. The iodoform bougies should contain ten per cent. iodoform; argyrol, 20 per cent.; protargol, 5 per cent. The female urethra is not over sensitive to the application of the silver salts. In answer to the question as to how much cocoa butter to use, that can be answered by the druggist. We do not need to bother about that.

So far as the application of these bougies is concerned, I mentioned expressly that we cannot treat the female urethra as we can the male urethra, because, as a rule, even if the woman is an expert, she will be unable to introduce these bougies into her urethra. We know of many cases where professionals have induced abortion by the introduction of sounds into the cervix, thinking they were introducing the instrument into the urethra. No physician should leave a woman to introduce a bougie into her urethra, etc. If he does permit her to do so, I think he is a correspondent to a crime if she hurts herself.

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CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

A regular meeting was held April 4, 1905, with the President, Dr. Wm. L. Ballenger, in the chair.

Dr. John Edwin Rhodes reported cases of stenosis of the trachea and larynx following laryngeal diphtheria.

Cases of Tracheal and Laryngeal Stenoses Following Intubation.

Dr. John Edwin Rhodes: Miss L. F. is 16 years of age, of Jewish parentage; height, 4 feet 11½ inches, and weight 81½ pounds. When she was six years of age she was attacked with laryngeal diphtheria, for which intubation became necessary to save her life. This tube was worn for about two weeks, having been removed accidentally once, by the thread which had been left attached, and replaced during that time. The information with regard to this illness is rather indefinite; but patient's mother says she had been croupy and somewhat hoarse for some time preceding this attack. Immediately following the final removal of the tube she began to speak in a whisper only and found difficulty in breathing, which have continued ever since.

Since that time she has been in fairly good health, save for an attack of acute appendicitis two years ago, from which she recovered without operation. She has occasionally had sore throat. Another symptom has been a constant cough, which is affected by weather conditions, and is much worse during the winter. The sputum is thick and yellowish, and very profuse. An examination of this sputum shows that it contains no tubercle bacilli, but pus corpuscles, streptococci and staphylococci are abundant. Her complaint now is chiefly of this cough. Her breathing is somewhat stridulous, there being both a noisy and labored inspiration and expiration, showing a permanent and fixed obstruction to the passage of the air current. She usually speaks in a whisper, and this, with the laryngeal picture when she thus speaks, has led to a diagnosis of paralysis of the vocal cords by some physicians. On careful observation and inquiry, however, I find that she can phonate aloud in a high pitched voice, and clearly when she attempts to do so with a full chest, and can converse aloud provided she occasionally takes a deep inspiration. She can call loudly also. The reason she has given for using the whisper instead of the high pitched, forcible loud voice

is that her chest soon becomes tired when speaking aloud.

You will observe that she speaks both during expiration and inspiration, a method compensating for the poverty of air supply in the lungs, and which I have noted in other cases of stenotic conditions of the trachea and larynx.

Her general health is fair and she has attended school regularly, going through the seventh grade.

She has been pale, much more so for some years after her illness than at the present time. Her finger nails are a little bluish, but the mucous membranes are bright red. Her blood count is white corpuscles, 9,400; red corpuscles, 5,600,000. Her appetitie is good and all functions fairly normal. Her pulse is 96, full, regular and soft; temperature, 99.

Examination of the chest shows a noticeable prominence of the lower segment of the manubrium sterni, but no other abnormal signs, save a somewhat labored breathing.

The nasal cavities are free, the fauces normal. On examination of the larynx, the vocal cords on whispered phonation remain abducted, but after taking a deep inspiration they abduct perfectly on phonating in high pitched voice. The anterior ends of the cords are broad and agglutinated at their edges, forming a broad band at the anterior commissure. Below the vocal cords at a distance of possibly 5 mm. on the left side of the trachea, is a broad cicatricial band, stretching across the lumen of the subglottic area, with a small opening in its right segment, through which the air passes. The arytenoids are freely movable. This cicatricial band not only obstructs the lumen, but has contracted the walls of the subglottic and tracheal area as can easily be demonstrated by external palpation.

I had hoped that a careful study of the case might show the advisability of some operative procedure, but in view of the fact that there is not only an obstruction of the lumen by the cicatrization but a marked narrowing and contraction of the tracheal wall, I am convinced nothing can be done to improve her breathing. Efforts were made by a surgeon for a period of two months by dilatation three times weekly to relieve the sterosis without any benefit. She also tried vocalization faithfully, but speaking aloud is always difficult. The chronic catarrhal condition of the tracheal and bronchial mucous membranes can probably be much relieved by inhalations and appropriate remedies. With that the patient will have to be satisfied.

About two years ago a young lady of 18 was referred to me, who had had diphtheria when four years of age, and had been intubated, and had worn the tube for a long time, coughing the tube out and having it replaced nine times. This lady spoke in a hoarse voice, speaking both with the expiratory and inspiratory currents of air. Her breathing was stridulous, but inspiration only was difficult. She was in robust health. In her case I found on examination of the larynx the left cord fixed in the central line, thickened, and on phonation was overlapped by the ventricular band, the arytenoid being quite freely movable. The right cord was movable in restricted limits, but was also overlapped by the vocal band on phonation. The opening for the passage of the air current was between the left cord, fixed in the median line, and the right cord in the cadaveric position. The larynx was somewhat distorted by the cicatricial tissue. At the time I saw her she had an acute laryngitis which cleared up rapidly under treatment. No operative measures could be advised.

Some ten years ago I saw another case with Dr. Ingals, in which an intubation tube was worn for a number of years. It could not be left out for any length of time. It was necessary to remove the tube about once a month to clean it. During all the period it was worn it was not left out for more than five or ten minutes at a time, breathing then becoming difficult, and on several occasions it was necessary to replace it quickly in order to prevent the child from choking to death. I remember one time being summoned in great haste to the house, and when I got there found the patient deeply cyanosed and semi-conscious, showing imperfect aeration of the blood and breathing with the greatest difficulty. I removed the tube quickly without placing the gag, and found it had been almost completely occluded by the dry mucous in it. Finally it became necessary in this case to do a tracheotomy, as the wearing of the intubation tube was such a menace to the child, from the difficulty of getting a competent physician in time to remove it when it became obstructed by the mucus. That patient is still living, but now wearing a tracheotomy tube. During the last year, attempts were made to widen the opening for breathing through the trachea and larynx, but without success.

Discussion on Dr. Rhodes' Cases.

Dr. Otto J. Stein: In reference to Dr. Rhodes' cases, I was wondering whether the employment of thiosinamine would not be beneficial, particularly in those cases where there are cicatricial contractions of the trachea. I did not examine the case and I do not know whether Dr. Rhodes used that remedy or not. It is used in keloids, and other cicatricial deposits about the body, particularly in middle ear disease, and it suggested itself to me that it might possibly be used in this region in conjunction with mechanical dilatation of the stricture. It might be of some use in softening the stricture.

Dr. P. J. H. Farrell: In examining these throat cases I find one great advantage in using the mirror is to rub the mirror on the mucous membrane of the mouth instead of using water. In this way one can get a longer exposure and a very much clearer view.

Dr. Rhodes (closing the discussion): Dilatation was tried very faithfully in this case for a period of three months without any benefit whatever.

Thiosinamin has not been tried, although it might be worth while to try it in order to soften the stenosed cicatrical parts. There is a contraction of the wall of the trachea, which makes it impossible to get a free breathing space by any operative procedure. Breathing is freer now than it has been, but dyspnea is not a

symptom of which the patient complains particularly.

Dr. J. Holinger: First patient: Fireman, 47 years old; caught cold after cleaning a very hot furnace. Severe headaches started a week later. He came to the Alexian Brothers' hospital another week later. The findings were, swelling of the left side of the forehead and of the left upper and lower eyelids. Fluctation could be felt over the medial end of the eyebrow and a defect in the bone underneath of the size of a bean. In the nose I could not detect any pus nor could I pass a probe into the frontal sinus. A radical operation after Killian, and now, four weeks after operation, you can feel that the sinus is filled with good callus. No communication with the maxillary sinus or with the nose could be found at the operation. This fact and the large destruction of bone after only two weeks standing of the empyema are the main reasons that this case is presented here.

Second: Carpenter, 47 years old; had headache on his left side since six weeks and sleeplessness. The left nostril was closed. A hard tumor of the size of a man's thumb filled it completely. The snare slipped and it had therefore to be cut out with a bone forceps. The tumor was an enormous bone cyst filled with polyps, after the removal of which it was found that it was the middle turbinal. Bone-cells in the anterior end of the middle turbinal are frequent but cysts of this size are rare. Furthermore was the origin of this cyst inflammatory, which is unusual, as Kikuchi, who has done the best work in this line, maintains that they were usually congenital. The nose is now very wide because the lower turbinal is squeezed against the wall. The opening of the Highmore's antrum can be plainly seen.

SOME MEDICAL TERMS COMMONLY MISUSED.

By Geo. E. Shambaugh, M. D.

The correct use of scientific terms is of first importance in medical writing where a definite concise presentation is paramount. In spite of this fact misused terms find their way into common usage. These errors are usually confined to the class of writing that forms the bulk of matter in our medical journals, yet some of them do occur in articles aspiring to be scientific, and in text books.

The confusion in the use of anatomical terms that had crept into our vocabulary was finally adjusted by the international convention of anatomists called together by His which met in Basel in 1895. At this time the entire anatomical nomenclature was revised. Terms which conveyed a mistaken conception of a part were dropped and new terms devised. Where the name of a man had been applied to a part this was dropped and an appropriate term applied. It is scarcely ten years since the work of this convention was completed, and today the nomenclature of His has been adopted in all writings of a really scientific character, and is being taught in our first class medical schools. The older terms which had been in common usage are being replaced even in writings in our second class medical journals.

It is not the use of the old nomenclature that is referred to in the title of this paper, but to the palpable misuse of certain terms.

In the ear, for example, we find the term processus longus often used when reference is made to the handle of the hammer, whereas the processus longus of the malleus is the processus anterior running forward from the neck of the malleus and buried in the anterior fold of the membrana tympani. The term ear drum is often used when the membrana tympani or drum membrane is referred to. The drum of the ear of course is the common name for the cavum tympani. More common, however, than the above errors is the misuse of the term middle ear. This is often used as synonymous with cavum tympani, whereas middle ear is a much more comprehensive term, and includes the tuba auditiva and the mastoid cells as well as the tympanic cavity.

Another term in connection with the middle ear that is commonly misused is the term applied to the antrum. We see this commonly referred to as the mastoid antrum, and frequently described as a large mastoid cell. As a matter of fact the antrum is not a mastoid cell, and while it is located at the base of the mastoid process it is really a part of the tympanic cavity as its correct name antrum tympanicum implies. The term mastoid antrum implies that it is a mastoid cell, and conveys a misconception of its true character which leads to a great deal of confusion in regard to the pathology of these parts. It was Leidy, one of our own great anatomists, who first pointed out the true character of the antrum, and showed that developmentally as well as in its histological structure this cavity was really part of the tympanum just as the attic and the aditus are and not in any sense a mastoid cell. It is only with this conception of the antrum that we can get a just appreciation of the significance of infection occurring in the antrum in the presence of a purulent otitis media and the relation of mastoiditis to antrum disease.

In the nose the confusion arising from the misuse of anatomical terms has been chiefly in connection with structures in the middle meatus. These parts are, in vivo, always more or less obscured from view and where one has not studied their relations on the cadaver it is very difficult to get a clear idea in regard to them. The terms that are most often misunderstood are the infundibulum and the hiatus semilunaris and the relations of these to the openings into the frontal sinus and the maxillary sinus. It is not uncommon to see the infundibulum referred to as the anterior end of the hiatus semilunaris which leads into the frontal sinus. In reality of course the infundibulum and the hiatus semilunaris are coextensive lying in the middle meatus, placed between the bulla above and the unciform process below. The hiatus semilunaris being but the slit-like opening leading into a furrow several mm. deep which is called the infundibulum. The anterior end of the infundibulum in the typical relation of the parts opens into the sinus frontalis, and in its posterior end is the ostium maxillare leading into the max-

illary sinus. Pus from either the frontal or maxillary sinus empties first into the infundibulum, and from this through the hiatus semilunaris into the middle meatus of the nose.

There is another incorrect term not an anatomical one, that has unfortunately got into common usage in the literature of our specialty. It is doubly unfortunate because in it the attempt has been made to use a scientific Latin term, but the word adopted has not been correctly derived, and to a foreigner who knows and uses the correct term our mistake must appear very ludicrous. Such errors are deplorable because they must tend to justify the cheap estimate which particularly the Germans have put on work done in this country. I refer to the term signifying an inflammation in a sinus. Some single term signifying this condition seems desirable. In the German literature a correctly formed term has long been in use. In this country unfortunately a wrongly formed word has been quite generally adopted. To those who have no appreciation for language this may mean little, but to those who have this appreciation such a mistake is something more than ludicrous; it is deplorable. The term signifying an inflammation is derived by adding to the noun stem the suffix itis. When for example we wish to express inflammation in the iris we add to the noun stemir the suffix itis which gives us the term iritis. In the word sinus the noun stem is sinu to which when the suffix itis is added we have the term sinuitis. This is the term in common usage in German literature. Unfortunately in this country a misformed word sinusitis has been commonly used. To a foreigner who has been accustomed to the correct term the use of sinusitis must appear as laughable as would the use of "irisitis" or appendixitis.

Discussion.

Dr. Norval H. Pierce was asked to open the discussion. He said: There was one point that attracted my attention especially, and that is when we speak of the middle ear the picture presented to the mind is very apt to be nothing more than the cavum tympani, and undoubtedly this has been to blame for a number of misconceptions in the pathology of acute inflammatory conditions, as the doctor has pointed out. In comparison with the pneumatic spaces in connection with the tympanic cavity in the acute inflammations, the cavum tympani is of secondary importance, and I believe that this should be insisted on until the general practitioner who believes that in an acute inflammation, because the auditory function is most obviously affected, the cavum tympani is the most important, comes to realize that in all these inflammations the juxtaposition of the great blood vessels and the lining membranes of the brain render the pneumatic cells of very much greater significance than the cavum tympani.

I have noticed that the word sinusitis is used extensively in American literature; it has been used in German literature, also, and I believe Chiari has drawn attention to the incorrectness of its etymological construction. It is really a hybrid term—"sinusitis" or "sinuitis"—a wedding of a Latin root "sinus" to a Greek suffix "itis," and that is not regarded as elegant by philologists. "Anthritis" has been suggested.

Dr. William L. Ballenger: Is it proper to say middle turbinal or middle turbinated body?

Dr. Shambaugh: The terms turbinated, turbinal and turbinate bodies are all used when referring to these structures in the nose. The term turbinated body is perhaps the one most often used, but as far as I know the terms turbinal and turbinate are equally correct.

Dr. John Edwin Rhodes: There is another word that has seemed to me unnecessary that has come into use recently, and that is the substitution of the word tonsillectomy for tonsillotomy. It seems to me there is a distinction there without any difference.

Dr. Ballenger: On what ground?

Dr. Rhodes: A tonsillotomy is practically the same as a tonsillectomy.

Dr. Ballenger: A tonsillotomy is where you cut through the tonsils, removing a portion.

Dr. Rhodes: Tonsillotomy has always been used for extirpation of tonsils until within recent times, and I do not see why it is not a proper term. In Gould's dictionary the term tonsillotomy is defined as "ablation of the tonsils."

Dr. Ballenger: When you say tonsillotomy, you mean that you cut through the tonsil and re move a portion of it, whereas, if you take out the tonsil in its entirety it is a tonsillectomy. I have taken out tonsils in their entirety, leaving the capsule undisturbed, and I call that a tonsillectomy. If I should simply cut through the tonsillar tissue, I should call it a tonsillotomy. That is my idea of the correct use of the two words.

Dr. Rhodes: That is hardily a correct interpretation to my mind, for the word tonsillotomy covers the entire field. The word is derived from the Latin word tonsilla, a tonsil, and the Greek word tomn, "a cutting," (not to cut through), the term, I take it, referring simply to the method of operating, i. e., by cutting, and has nothing suggestive of whether it is a partial or a complete extirpation. I object to the use of the two words simply because I think one term covers the whole field.

Dr. Norval H. Pierce read a paper entitled, **The Present Status of the Question of Rarefaction of the Labyrinthine Capsule (Oto-Sclerosis).**

After stating that the nomenclature of the disease process under consideration was not altogether satisfactory, the author stated that its development may be historically divided into three phases. The first phase began with the recognition of stapes ankylosis as a cause of deafness. The second stage was inaugurated by the discovery that the disease is a primary circumscribed process in the bony labyrinthine capsule, disassociated from demonstrable changes within the tympanic cavity. The third stage is that in which occurred further developments in the micro-pathology and the formulation of diagnostic methods.

That deafness may result from fixation of the stapes in the fenestra ovalis was recognized by Valsalva, 1724; by Morgagni, 1761, and by Meckel, 1777. From this time to the middle of the

last century no further development occurred. In 1849 Toynbee published his pathologico-anatomical researches in diseases of the ear, based on 1,149 preparations. Among these he found 126 specimens of ankylosis of the stapes. The value of these specimens was greatly reduced by the fact that they were accompanied by very scant clinical observations, but the publication gave a fresh impetus to the subject, and in the following thirty years the subject was enriched by the appearance of much research work by von Erhard, Kramer, Voltolini, von Troltsch, Politzer, and many others. The tardy development of knowledge of this disease was due to two factors:

1. The difficulty of obtaining post-mortem material that had been sufficiently observed during life.

2. The lack of correct diagnostic measures.

The process which causes synostosis of the stapes is a harmless disease as regards life. The temporal bones of those so afflicted can be obtained only when death results from some intercurrent disease or from violence. As regards the second point, it is sufficient to mention that as late as 1870 Schwartze believed that the only certain means of ascertaining the fixation of the stapes was by directly testing its mobility with a probe introduced through an artificial opening made in the tympanic membrane.

The second stage dates from 1861, when Moos published the results of his examinations of a case in which, besides entire absence of change in the tympanic mucosa, he found stapes ankylosis, to which he ascribed as cause a primary ostitic process occurring in the bone itself. In a second case he ascribed the ankylosis to a circumscribed periostitis occurring in the labyrinth capsule itself. This publication was quickly followed by others, all agreeing in the main as to the pathological findings, but differing as to the exact histological origin of the process, that is, whether the pathological change originated in periosteum, bone, or cartilage.

The third phase in the history of the development of our knowledge of the disease began with Bezold, who, in 1885, reported the first case of stapes ankylosis, in which the correctness of the clinical diagnosis was verified by the results of a microscopic postmortem examination, and manometric tests of stapes mobility; while he at the same time laid the foundation of functional tests as an aid to diagnosis of the physician. Soon after this the microscopic examination of specimens of the temporal bone added greatly to the advancement of the subject. Politzer was the first to illustrate the microscopic findings of stapes ankylosis in his text-book published in 1887. To L. Katz belongs the honor of publishing the first case in which stapes fixation was diagnosticated during life by the results of functional tests, and which was microscopically examined after death. Since Katz's publication in 1890, there have been less than 40 cases reported, in all of which the diagnosis made during life has been confirmed by dissection.

The principal factors of interest in the pathology of osteoporosis are grouped about the changes which occur about the footplate of the stapes and those in the bony walls of the labyrinthine capsule, the cochlea, semi-circular canal, and vestibulum.

The author called attention to the fact that fixation of the stapes may occur in conditions other than osteoporosis.

He discussed the etiology, saying that the cause of oto-sclerosis is still to be found.

The disease affects women more frequently than men. Oto-sclerosis is a disease of middle age.

Attention was directed to functional tests and diagnosis. The diagnosis of pure, uncomplicated oto-sclerosis was not difficult.

As to the value of Gilli test, it is variously estimated by otologists. The speaker has used it for a number of years, and finds that it is of great service in controlling Rinne test, especially in cases of oto-sclerosis. He agrees in the main with Gilli's deductions:

1. A negative Rinne combined with a negative Gilli permits the exclusion of nerve involvement.

2. A positive Rinne and a positive Gilli indicate nerve deafness.

3. A positive Rinne and a negative Gilli are strong presumptive evidence of stapes fixation and nerve involvement.

Dr. George Shambaugh: I think we are fortunate in having had the privilege of listening to a paper that brings up this subject so thoroughly and so accurately.

The question of diagnosis of oto-sclerosis is one which we have to meet daily. We find these cases where there can be no question in regard to the diagnosis. Where we have the drum membrane perfectly clear and the tube widely open, with the typical tuning fork test there can be very little question as to the diagnosis. On the other hand, we meet cases in which the condition of oto-sclerosis has been preceded in previous years by a chronic, perhaps suppurative, middle ear process, which renders the diagnosis more difficult, because here we get the same tuning fork test as in oto-sclerosis. The lower tone limit is destroyed to a certain extent, with decided negative Rinne, and a prolongation of bone conduction. There is no reason why a chronic suppurative process may not be followed in later years by an oto-sclerotic process, the two not being connected at all. The same is true of middle ear catarrh. A child may be suffering from adenoids and may have had tubal catarrh in early childhood. This may disappear leaving marks on the drum membrane of past catarrhal disease, from which the child had recovered. When such a case develops oto-sclerosis it is not easy to ascertain whether the symptoms are caused by the alterations produced by the catarrh or are the result of oto-sclerosis. The question of diagnosis here is difficult if not quite impossible.

In regard to the definition of oto-sclerosis, I do not know as I understood the doctor correctly, but I gathered that in his definition of the disease was included the condition that there has been no previous ear disease present

This is like the definition often given of Meniere's disease when it is stated that it is the result of certain definite lesions with certain definite symptoms, and occurring in a case where he made a post-mortem examination and because this case had suffered from no previous ear trouble is hardly a reason why one should exclude from the definition of Meniere's disease those cases where there has been ear trouble previous to the development of the conditions which we recognize under the name of Meniere's disease. There is of course no reason why a person who has suffered or is suffering from some ear disease, as for example chronic suppurative or chronic catarrhal otitis media, should not develop oto-sclerosis, the two perhaps being quite independent of each other. The diagnosis of oto-sclerosis in such cases will be quite difficult, and often impossible except by post-mortem findings.

The fact that the foot plate is often involved in the bony lesion of the labyrinthine capsule in oto-sclerosis suggest the long controversy running through the literature in regard to the origin of this part of the stapes. It has been pretty generally acceded that the foot plate of the stapes has quite a different origin from the remainder of the chain of ossicles, and that it is derived from the capsule of the labyrinth from which it becomes detached. Oto-sclerosis having its origin in the capsule of the labyrinth has directed attention to this interesting structure. If we look at a cross section of the temporal bone it will be seen at a glance each point where the labyrinth of the ear has been cut through from the ivory-like character of the bone immediately surrounding the labyrinth. This is the so-called capsule of the labyrinth. It is not easy in the adult to determine the exact line of division between the capsule and the surrounding spongy portion of the temporal bone, for the two pass imperceptibly into each other. In the foetus, however, and the new-born, the labyrinth with its capsule can be shelled out entirely free from the temporal bone. In the earlier embryo before ossification has taken place the labyrinth with its cartilaginous capsule can be shelled out in the same way.

A point of interest in connection with the capsule of the labyrinth is the question of its blood supply, and especially whether there are communications existing between the blood vessels of the capsule and those which supply the membranous structure of the labyrinth. Politzer on the basis of some investigation of his own believed that he could demonstrate communication between the blood vessels in the labyrinth and those in the part of the capsule forming the promontory, and since the blood vessels of the mucosa of the tympanum communicate freely with the blood vessels in the osseosus structure forming the promonotory Politzer believed he saw a direct route for extension of disease from the cavum tympani to the labyrinth.

The observation of Politzer has not been substantiated by subsequent researches along this line. I have for several years been working on the subject of the blood supply of the capsule of the labyrinth, and I have found a method by which the blood vessels of the capsule can be readily studied and which I believe settles definitely many of the points in dispute.

Dr. J. Holinger: The latest work on oto-sclerosis is Denker's, which, as I see, is well known to Dr. Pierce. Only a limited number of cases have been published in which the post verified the diagnosis made during lifetime, a much larger number has not been published. Siebenmann says he has spoken on this subject and leaves the floor to the others. Denker approves of every word.

There are two different pathological processes which may lead to immobility of the stirrup in the oval window. First, Siebenmann's spongifying process with out inflammation originating in the bony capsule of the labyrinth and second, the inflammatory process with periostitis which develops in old suppurations. The adhesive processes of the mallet and incus one reads so much about in the text-books have very little bearing on the hearing. What Dr. Shambaugh and many text-books with him call chronic catarrhal otitis media are either suppurations of the middle ear and if they lead to scars with stopping of the suppuration are called residues, or they are occlusions of the eustachian tube. Small amounts of vicid mucous may be found in the M. E. of these patients but that is not pus and the process can not be called suppuration because the mucous membrane is not inflamed. The mucous is a secretion exvacuo and disappears as soon as the tube is opened. The publications of Bezold on these matters date more than 18 years back. Many modern text-books did not take any notice of these experiments and are therefore not up to date. The practical value of all this has been often demonstrated to me, when patients who were elsewhere treated with electric massage, etc., for weeks and months were cured after a few applications of the catheter.

Dr. Pierce (closing the discussion): In regard to Dr. Stein's question, I will say that in the body of my paper I gave statistics as to bilateral occurrence, quoting from Bezold. He gives 88 per cent of cases in which both ears are affected. From my own experience I believe that in much less than 10 per cent only one ear is affected. A good many cases of oto-sclerosis that are supposed to be bilateral prove to be unilateral, after careful examination. A great many of the patients who come to us say that they cannot hear very well in one ear. It may be the right or the left ear, and when we examine them carefully we find the other ear is affected as well, not as markedly as the one of which the patient complains, still, the defects in the lower tones, and decreased distance for whisper evidence its involvement. Bezold and Seibermann strive to exclude the idea of inflammations other than suppurative in the middle ear. Siebermann speaks constantly of "the reactions in tubal catarrh." This is somewhat misleading to our minds, because we are accustomed to divide the secretory processes in the middle ear into several categories. Bezold speaks of tubal catarrh as we speak of catarrhal inflammations of the middle ear. It makes

very little difference practically whether we regard those conditions which we have spoken of as catarrhal as being limited to the middle ear, or whether they are simply the result and extension of a condition that had its origin in the eustachian tube. That we can have fixation of the stapes in the fenestra ovalis in secretory (catarrhal) types of middle ear (tubal) inflammations due to organization of the products of such inflammations about the foot plate there can be no doubt, and this fixation, if it is complete, gives similar reactions to those of fixation of stapes as the result of oto-sclerosis. We have prolonged bone conduction, positive Rinne, and elevation of the lower tone limit, but the other factors, the presence of retraction of the drum-head, closure of the eustachian tube, the presence of fluid perhaps in the middle ear—symptoms that are characteristic of these inflammations, are present in the catarrhal type, where as in oto-sclerosis we have a patulous tube, and normal or nearly normal tympanic membrane. Even if we have tubal disease (or a catarrhal otitis media) and oto-sclerosis, the symptom complex of oto-sclerosis will so far overshadow the symptoms of catarrhal inflammation that we very rarely remain long in doubt. For instance, if we have the symptom-complex of Bezold, and on catheterization or inflation find there is considerable increase in audition, our prognosis should be very guarded, because these cases frequently go on and follow the usual course of cases of oto-sclerosis. We should not be misled, therefore, in those cases that give the reaction of fixation of the stapes, by an increase of audition on inflation. In cases where the bone conduction is decreased and with shortened or negative Rinne, and where there is indubitable evidence of tubal catarrh (or of a catarrhal otitis media), we may have the greatest difficulty in arriving at an exact diagnosis, and it is only by observing these cases for a considerable length of time that we can arrive at a correct diagnosis.

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A regular meeting was held May 2, 1905, with the President, Dr. Wm. L. Ballenger, in the chair.

PALATAL ULCERATION.

Dr. T. Melville Hardie: Case 1. I had expected to present this evening two cases of pharyngeal and palatal ulceration, but have been able to convince one of my patients that the ulceration is syphilitic, notwithstanding the fact that we have been unable to discover the mode of infection. The patient who is present is a man of 56, who has an extensive tubercular ulceration of the right side of the soft palate, with ulceration of the right tonsillar region, including both anterior and posterior pillars. There is an infiltration of the epiglottis, increasing with the progress of the disease, but no ulceration of the larynx. The man suffers a great deal from pain on swallowing, and I have asked him to let you see him, not merely because of the clinical appearances of the case, but in the hope that he may be benefited by your advice as to treatment.

Case 2. The next patient is a man from whom I removed a large sequestrum which involved the anterior wall, the floor, and inner wall of the antrum. I present the patient for the purpose of asking whether you advise my making an opening into the nose, removing a part of the turbinated body, and a part of the inner wall, and closing the outer wall, or whether you would not think it wise to still leave that open for purposes of observation. He is wearing a plate which conceals the defect. As it is now, the patient does not require any attention from his physician. In the event of closing the opening, I imagine some treatment would be required.

I want to know if any of you have had experience in cases of this sort that might benefit this patient.

Case 3. While I am speaking, I should like to put on record also a case of tuberculosis of the larynx in a man, 76 years of age, with extensive infiltration and ulceration of the epiglottis, also a large ulceration of the posterior laryngeal wall. His wife died seven years ago from pulmonary tuberculosis, and he has lost three children from the same disease. They were all young adults. I have never seen a patient as old as this man with tubercular ulceration of the larynx, and I thought it would of interest to mention the case.

Dr. Otto T. Freer: May I ask Dr. Hardie in regard to his first patient, whether a histologic examination of the tissues underlying and about the ulcer in the soft palate has been made?

Dr. Hardie: There has not.

Dr. Freer: Two years ago I saw a case of superficial ulceration of the mucosa over the hard palate extending into the velum. The appearances strongly resembled those shown by Dr. Hardie's patient and tuberculosis was suspected as the probable condition, but the microscopic examination of excised pieces showed epithelioma of a superficial nature. It was in fact a case of rodent ulcer, similar to the form well known to dermatologists occurring in the face, where there is a very slow advance and where there is only a thin layer of carcinoma tissue penetrating the tissues, breaking down as soon as created. Such epitheliomatous ulcers are for a long time very superficial, gross neoplastic formation is absent and in the pharynx they much resemble ill defined, ragged tubercular ulceration. It has been my fortune to see several such cases.

Without denying the probably tubercular nature of the ulcers shown tonight, I wish to call attention to the frequent need of the microscopic examination of sections of tissue in the diagnosis of ulceration of the pharynx of equivocal aspect.

Dr. Hardie: I should have said that the man's mother died at the age of 40 of tuberculosis; the father at the age of 60 of carcinoma of the stomach.

Dr. Freer: While it is probably a tubercular ulcer, I would suggest the possibility of it being a combination of the two diseases—carcinoma and tuberculosis.

In regard to the second case, I did not gather

a correct idea as to the nature of this sequestrum, or how it occurred.

Dr. Hardie: The man was sent to me by his dentist, after having had three teeth fall out in succession. He had been under the care of his dentist for some months. He went to him because a tooth became loose and fell out. The dentist treated the tooth cavity, and it did not heal, and after a little while the next tooth became loose and fell out. He treated the case a little longer, shortly after which a third tooth fell out. He had been washing the cavity with peroxide of hydrogen or some other cleansing agent. One could not tell how far this necrosis had extended, or how many of the teeth would have finally fallen out if he had not had this piece of bone removed. It was uncovered as far as possible, and in removing it I took away a good part of the anterior wall and the floor of the antrum, back pretty nearly to the posterior wall of the antrum, when it was found to extend as far as the middle line in the hard palate.

Dr. Freer: Did the process seem to be osteomyelitic, purely, inflammatory, or a dyscrasia practically?

Dr. Hardie: Syphilitic.

Dr. Freer: It seems to me, as long as this man suffers no discomfort, if he were my patient I should let him alone; but if food should lodge around the plate and cause annoyance, it might be well to do something.

Dr. Hardie: The opening in front is closed practically. No food lodges around the plate. If there should, it can be washed away when the patient douches the cavity.

Dr. Norval H. Pierce: I would like to ask Dr. Hardie if he has tried trichloracetic acid on these tubercular ulcers?

Dr. Hardie: The only thing I have tried on them has been the X-ray. The X-ray has been applied twice a week for about six weeks, but without any noticeable effect. The exposures of the X-rays were not very prolonged, because we wished to be certain of doing no harm. The patient himself said he had not noticed any difference in the amount of discomfort until after the last couple of treatments, when the condition seemed to be considerably worse, so far as pain is concerned. He has received orthoform locally. I have not used anything else on the ulcers, because I thought I would like to see the effect of the X-rays on them, as we could get at them. We used a long tube to direct the rays on the ulcerated patch. I have seen very little difference in the appearance of the ulceration, excepting that before these agents were applied there were some small spots that looked like miliary tubercles, such as we not infrequently see in the pharynx.

Dr. J. Holinger: As to the treatment of the difficulty in swallowing in this case, as well as in cases of tubercular laryngitis, I had recently a very pleasant experience with a series of cases that I treated with a ten per cent solution of chloretone. The preparation of the solution was the only disagreeable feature in this treatment; but the results have certainly been very gratifying, in that the patients can swallow any quantity of food without pain if the larynx is painted with this solution about an hour or an hour and a half before meals.

Dr. Norval H. Pierce: In Killian's clinic, where a good deal of tuberculosis of the mucous membrane of the nose, pharynx, and larynx is seen, the use of the X-ray has been abandoned entirely as absolutely valueless.

I have seen a case of tuberculosis of the right posterior pillar heal under applications of trichloracetic acid in these regions, where we can apply it with safety, is of more value than lactic acid. I should think this would be a case where anesthesin would be indicated, although I have very little confidence in it myself.

Dr. Hardie: I would like to ask Dr. Holinger what preparation of chloretone he uses, whether the crystals or the inhalant.

Dr. Holinger: I use a ten per cent solution of the crystals in olive oil.

Dr. Hardie: In the matter of tuberculosis of the throat, most of us have had cases in which we have found one particular agent that would always give relief; yet in using the same agent in another case we have been greatly disappointed. We know that a number of patients get well, so far as tuberculosis of the larynx is concerned, under the simplest treatment, and a number of others get worse under the most vigorous treatment.

Dr. Freer: I would suggest one thing I have used with success in a case of tuberculosis of the epiglottis, and that is the galvano-cautery used with a decidedly bright heat.

Dr. Hardie: I have had cases of tubercular ulcers of the epiglottis get well under applications of nosophen powder and menthol in olive oil. I believe I used it ten or fifteen years ago; but I do not think I have used nosophen now for years. I recall one case in which the ulceration was very extensive. The man had not been able to swallow solids or fluids from the time he left Colorado Springs until he reached my office. He said that his thirst was even harder to bear than the pain. I introduced a tube into the stomach and gave him a drink of cream and whiskey; the next day I curetted the ulceration of the epiglottis, and in about two weeks he was able to swallow beefsteak, and the ulceration healed. He died three years later of pulmonary tuberculosis; but there was no recurrence or further breaking-down of the ulceration in the epiglottis.

In the case we have before us the ulceration is very extensive, as a great part of the soft palate is involved. There is much ulceration in the right tonsillar region; both the anterior and posterior pillars are involved, and there is an increasingly large infiltration of the epiglottis. I felt justified in presenting this man in order, if possible, to get some useful advice from you.

Dr. O. J. Stein: I would suggest the use of formalin in the case reported and exhibited by Dr. Hardie, as it is being used a great deal in cases of tuberculosis of the larynx, with considerable success, by Denver men and others. You can give as much as fifteen per cent after anesthetizing the part; and the results are good,

so far as subsidence of the symptoms is concerned. I think it would be well to try it in this case.

Dr. Hardie: I used a three per cent solution of formalin after anesthesia, with great discomfort.

An Improved Method of Making the First Incision Through the Cartilage in the Resection Operation on the Nasal Septum; With the Exhibition of a Cartilage Knife Designed for this Purpose.

By Dr. Elmer L. Kenyon.

Assistant in the Department of Nose, Throat and Chest, Rush Medical College, Chicago.

Dr. O. T. Freer's work in perfecting the technique of the resection operation upon the nasal septum has been so thoroughly done that one does not feel over-confident in suggesting improvements. It seems to me, however, that the method he pursues in making the first incision through the cartilage involves an essential and inherent weakness, in that it demands a degree of delicacy of manipulation on the part of the operator and a delicacy of the sense of touch, which, perhaps, most operators are unable to respond to. You are familiar with the manner in which this procedure is carried out. With a straight, very thin cartilage knife, held against the septum either vertically or at a more or less oblique angle, the operator moves it lightly backwards and forwards until it has penetrated the cartilage. He does this if possible with a finger in the concave naris, against which to work. The safety of the concave mucous membrane is dependent upon the delicacy of manipulation on the part of the operating hand, which, also, must interpret by a most keen sense of touch the instant when the cartilage had been completely penetrated; and, if the finger is in the concave naris, is dependent upon the delicacy as well of the sense of touch of that finger. In cases where the finger can be placed in the concave naris, and where the cartilage is not unduly thick, this procedure is reasonably safe. On the other hand, if the finger cannot be placed in the concave naris, or if the cartilage be unusually thick, it seems to me that only the most skilled operator can feel sufficient certainty in carrying out this procedure. Moreover, whether the conditions be difficult or easy, the concave perichondrium must necessarily be more or less injured. There is no way of making this sort of incision, as I see it, without injuring the concave perichondrium, and also more or less the concave mucous membrane. And furthermore, in a certain percentage of instances, the concave mucous membrane cannot but be penetrated completely.

As to whether a keen, thin knife is capable of producing injury to the concave mucous membrane sufficient to be of consequence, even where permanent perforation does not result, one of my cases throws some light in that case, although permanent perforation did not result, profuse hemorrhage occurred into the concave naris on the second day following the operation. The patient was many miles away and came all the distance to see me with the nose bleeding freely. This case shows that injury to the concave mucous membrane even where permanent perforation does not result, may, at any rate exceptionally, be attended with consequences worth serious consideration. And as to whether complete penetration of the concave mucous membrane by a thin, keen knife is capable of resulting in permanent perforation, one of my cases also throws light. In this case I was making the first incision through the cartilage with the Sajous knife, the blade of which is straight and very thin; I was experimenting upon an improved technique. Suddenly I felt the knife give a lurch and knew that it had penetrated the concave mucous membrane. Looking into the concave naris I saw a little streak of dark on the surface of the mucous membrane, confirming my supposition that the knife had completely gone through. I was unaware of any further injury to this structure. A permanent perforation of about the size of a pea resulted. This case shows conclusively that complete penetration of the concave mucous membrane (possibly, however, with some concomitant injury) by a keen, thin-bladed knife may result, at least exceptionally, in permanent perforation.

Now if this step in the operation could be carried out without need for such a relatively extreme degree of education of the operator's hand, and if a very large part of the uncertainty attending the present procedure could be done away with; and, finally, if the step could be accomplished with scarcely any liability to injury of the concave perichondrium, or mucous membrane, the technique of the resection operation would to that extent be advanced.

Kenyon's Cartilage Knife.

The knife which I wish to present partakes of these characteristics: The blade is made exceedingly thin, and of course the edges are keen; the blade is set on the handle at an angle of 30 degrees; the upper and lower edges are each straight for a short distance and are parallel; the length of the blade is one-quarter of an inch; the blade is curved gently and gradually on the flat. The manner of using the knife is as follows: With the blade pointing away from the operator and with the concavity of the blade toward the convex side of the septum, the knife is placed against the cartilage, not vertically, or at a slightly oblique angle, but almost horizontally; then, with an upward and downward movement, and a pushing and lifting movement, the blade is made to penetrate the cartilage and to slip in between it and the perichondrium. One should bear in mind that in thus making the first entrance through the cartilage, he is working with the field of operation directly in front of his eye; he sees exactly what he is doing; his eye assists the sense

of touch of his hand. The object of the lifting movement is this, that the instant the end of the knife has penetrated the cartilage, its farther edge at the place of penetration is lifted away from the perichondrium, and the operator sees the perichondrium through the opening. There is no hesitating to make sure that the blade is completely through the cartilage, no strained dependence upon the sense of touch in order to be certain of avoiding penetration of the concave mucous membrane; on the other hand, one sees instantly when the knife has gone through. Consider the situation. The blade has penetrated the cartilage in that one place, and thus its extremity lies between the cartilage and perichondrium; the concavity of the knife is towards the cartilage. Now, in order to enlarge the incision, the blade is held firmly against the cartilage and moved upwards or downwards, the upper or lower edge cutting its path through the cartilage, and the extremity of the blade moving between the cartilage and the perichondrium. There is, I think, very little danger indeed of injury to the concave perichondrium or mucous membrane, for the reason that the curve of the blade is towards the cartilage and the pressure is in the same direction, so that, if the knife should slip, it must be the cartilage that is injured and not the perichondrium or mucous membrane. However, if dense adhesions were present, one would meet with difficulty, as he might meet with difficulty in the other procedure. In such cases I suppose that one should make a relatively small incision directly in front of the eye, and then with some form of separator dislodge the perichondrium from the cartilage above and below and complete the incision with a crooked knife. Since it is necessary to work with the blade away from the operator, both a right and a left knife are necessary, but the cost of the knife being no more than that for a simple cartilage knife, the increase to the expense of the necessary outfit for the resection operation is not excessive.

Dr. Otto T. Freer: In designing his new cartilage knife for the first cut in the cartilage Dr. Kenyon has employed the proper principle of construction, that is, his instrument has a keen, very thin, razor-like blade, so that its use requires no pressure in order to make it cut. This is to be emphasized, for other instruments for the first cartilaginous cut are being recommended for use that are incorrectly made. For instance, Killian scratches through the cartilage of the septum with a thick-lipped, chisel-edged instrument, which must by reason of these qualities be necessarily pressed against the cartilage in order to wear its way through. Even the slight force thus required implies a stiffening of the fingers holding the instrument and so deprives the operator of the delicate sense of touch that is necessary to inform him when he has cut through to the under surface of the perichondrium on the concave side, a sense of touch which is preserved when one cuts through with a lightly held keen edged knife. Others, who have operated under my direction, have expressed their surprise at the accuracy with which the tactile sense indicates by a sense of lessened resistance when the thin razor-like blade of my round-bladed knife has just gone through the cartilage without entering the mucosa-periosteum of the opposite naris. I no longer place the little finger in the latter in order to feel for the edge of the knife when making the first cut through the cartilage. In doing this the finger presses the mucosa-perichondrium of the naris of the concavity against the edge of the knife and so favors its unwelcome division by the blade; holding the finger in the nostril also divides the operator's attention, and requires an awkward crossing of hands when one operates in the right naris unless one cuts with the usually unskilful left hand. Where no finger is inserted, the mucosa by reason of its elasticity and frequently loose attachment on the concave side, is able in a sufficient degree to evade the cutting edge, to save its being incised if one cuts cautiously. Nevertheless I agree with Dr. Kenyon, that the first cut in the cartilage, though it does not cause the experienced operator apprehension, is a source of dread to the one who has not educated his sense of the penetration of the knife into the cartilage and it is possible that Dr. Kenyon's hollow blade will prove an aid to the unpracticed. Personally, of course I feel like adhering to the methods I am used to, and I find that my sense of direction and penetration is most exact when I make the motions in cutting as simple and direct as possible, with a flat, thin, round edged, straight blade without confusing curves. I cut straight through the cartilage vertically to its surface or at the most at an angle of 45 degrees, the edge of the knife looking towards the back of the nares. For those of moderate experience it is well to cut through with several strokes of the knife, feeling from time to time with the thin edged dulled spatula elevator in the incision being made through the cartilage, whether at some point the latter has been divided all of the way through, so that the blade of the spatula may be inserted under the posterior edge of the slit in the cartilage so created in order to lift it for seizure with the rat-toothed forceps. When this is done the operator can judge by sight what thickness of cartilage he is cutting through.

I have increased the extent of my first cut through the cartilage, my old incision, which follows the direction of the dorsum of the nose, being joined at the bottom of the septum by a short horizontal one, so that a tongue of cartilage is thus outlined with its apex forwards. When this is uplifted from the mucosa of the concavity it gives so much room for further separation so that I no longer find it necessary to watch the elevation of the mucous membrane of the concave side from the nostril of the concavity of the deflection.

Experience may prove Dr. Kenyon's knife a very useful addition to the instrumentarium of the window resection for certain cases, in fact there is so much variation from the usual in many of the deviations encountered that one is continually finding that some unusual instru-

ment fits some unusual case, a reason for the multiplicity of my instruments.

I take this opportunity to refer to an instrument which I have recently described in Fraenkel's Archiv fuer Laryngologie. It is my modification of Gruenwald's punch forceps and a number of the members present have already seen it. Instead of the scissors handle of the original Gruenwald forceps my modification has a forceps handle which gives it great power, as the strength of the whole hand can be used in closing the blades. The latter instead of opening up and down as in the original instrument, open laterally, a direction suited to the position of the septum. In spite of the great power of the instrument, none of the slenderness and length of the parts that enter the nose have been sacrificed. I have cut through bone one-eighth of an inch thick with the jaws of this forceps as easily as one can cut cartilage with other patterns and it is possible with it to extirpate a bony deviation completely piece by piece. Even the strong crista incisiva may be trimmed off with it.

In contrast to it the Hartmann punch forceps used by Killian is far too weak to cut through much of the bone that I have encountered. The Jansen-Middleton-Hajek punch forceps is able to cut heavy bone in the septum but can not be used with accuracy farther back in the naris than 1½ inches, because of the thick sockets of the blades which can not enter the naris and which hide the view as soon as they approach it closely. I have repeatedly had to excise portions of the vomer at a depth of from 2½ to 3 inches in the nasal cavity, measuring from the entrance of the nostril, and both Gruenwald's original forceps and my modification of it easily reach the posterior border of the vomer.

Dr. Kenyon (closing the discussion): I think we all feel inclined to concede to Dr. Freer an unusual skill in the performance of the steps connected with this operation. I have no doubt that Dr. Freer is capable by his own method of making this first incision with a degree of certainty possibly greater than that which I would feel even with the knife and method I have suggested tonight. But the idea which I had in mind was to do away with the demand for an extreme delicacy of manipulative touch, which, I fear, can be sufficiently developed only through the performance of a great many operations. With the aid of this knife and particularly since in its use the eye is enabled to aid the hand, I believe this purpose to be accomplished. And if this be true, a real service has been performed for the great majority of operators.

So far as Dr. Freer's modification of the Gruenwald forceps is concerned, I have used this instrument four or five times, and have found it of the utmost service in connection with the operation.

TECHNIQUE OF MECHANICAL MASSAGE IN THE TREATMENT OF THE THROAT, NOSE AND EAR.*

By Moreau Roberts Brown, M. D.

Fellow of the Americal Laryngological Association, Professor of Rhino-Laryngology in the Chicago P..liclinic, etc., Chicago, Ill.

In his work on Massage, Graham says (page 451): "When some of those distinguished gentlemen have invented a machine that can massage not only the ear but also the side of the head and neck as well as can be done by the human hand, then we will hear still better reports of the effects of massage in aural troubles." Whether the perfected instrument referred to has or has not yet been invented I am not prepared to assert; but I do affirm that the result of treatment by vibrassage, as I have used it in many diseases not only of the ear but also of the nose and throat during the past three years, is superior to that reported to have followed manual massage or in fact any other form of massage in vogue. As this success is to be attributed to the technique employed (much of which was originally suggested to me by that master masseur, Hugo Ad. Oldenborg, G. D., of this city), I have considered it of sufficient importance to embody it in a brief article without any attempt whatsoever at a scientific discussion of the subject. But it must be understood that massage, as herein advocated, is not considered a specific nor is it used to the exclusion of other well recognized treatment but in connection with it.

The general physician must not expect to accomplish with manual massage or even vibratory massage all that an educated and properly trained masseur does in the general treatment of the body, but he can successfully combat with a properly constructed vibrator, the use of which he is familiar, certain local pathological conditions. I have no hesitancy in saying that in diseases of the ear and nose even better results are obtained by mechanical massage, owing to the more complete vibration imparted by it to the hard, unyielding bony walls than by manual massage, the effect of which on these organs is but slight.

Massage, as is well known, comes to us from ancient times, having been mentioned by Homer, who, with more recent authors, refers to its employment principally as a luxury and as a means to invigorate the body. Although it was occasionally advocated as a therapeutic agent, it was not until Ling introduced it into Sweden in 1813 that it was used in a scientific manner. Mechanical vibration, which is its outgrowth, was first physiologically studied, according to Schrieber, by Von Mosengeil, in 1876 (see Snow on Mechanical Vibration).

Possibly the Delstanche Masseur and Siegel's Otoscope were the first instruments used especially for aural massage. The Delstanche instrument was improved upon from time to time and many different forms of massage otoscopes

were presented until we have today a perfected air-pump masseur modeled somewhat after and an improvement on the Philadelphia Ear Masseur or the Chevalier Jackson instrument. Other instruments have been designed for massaging the interior of the ear, the throat or the nose; that devised by Dr. J. Mount Bleyer of New York for intranasal vibration, owing to the favorable results obtained and reported by him, being most entitled to mention.

The number of articles and books written on massage within recent years, the number of people engaged in its application as a means of livelihood and the variety of machines devised for its mechanical application, many of which now form the armamentarium of the physician's office, bear witness to its general utility.

It is universally conceded that, by increasing the circulation through the lymph and blood vessels, massage relieves acute inflammation, and when the inflammation has come to a standstill or becomes chronic, by the same means it rouses the dormant capillaries, furthers absorption and stimulates the vaso-motor nerves. Some (Kleen, et al.) consider that the "cellular elements in the more or less organized products of inflammation are induced to undergo fatty metamorphosis and become disorganized. The little particles are taken up and carried away by the lymph vessels." Billroth claims that in hyperplastic tissue "impervious blood and lymph vessels may be opened and absorption of the adventitious tissue promoted." Massage restores muscular action, increases glandular secretions, releases nerves from the neigboring tissues that compress them, nourishes and strengthens exhausted nerves and improves their function. The degree to which this is done depends on the extent of the pathological changes, and it must not be overlooked that improved nutrition and improved function of nerves will not so soon follow as in the case of muscles, and that excessive massage or stimulation may abolish their activity.

It is essential for success that the instrument employed in mechanical massage be suited, by virtue of the character of its vibrations, to the parts to be massaged and adapted to the relief of the pathological changes to be overcome, just as it is essential in manual massage for the masseur to understand when to employ effleurage or other of the various movements necessary for the success of his art. For ear, nasal or laryngeal vibrassage, the vibrator, generally driven by an electric motor, must be of that type which imparts a circular or wave-like motion such as is obtained by fastening the vibratode on the end of the handle of either of the instruments referred to below. No other motion will give the same results, the downward or hammer-like stroke not being suited to the work in question. The vibrations must be as short and the speed as moderate as is possible, though at times the highest speed will be required to secure the desired effect. Just exactly what this is it is not possible to state, for no instrument yet made is provided with a scale to indicate either the length of the stroke (vibrations) or the speed given or required. In a general way, however, it may be stated that in using the instrument made by Messrs. Truax, Greene & Co., the weight in the handle which creates the vibrations should be screwed down to its fullest extent, and that with the vibrator made by the Victor Company the weight is turned out to a point where the vibrations are slight but distinct, as can be determined by the operator on placing the vibrator against his own face. The pressure must be but moderate and the vibratode should be of the bell shaped variety made of soft rubber, perfectly pliable and of a diameter at the distal end of from 1½ to 2 inches.

Massage of the throat, nose and ear should begin by treatment of the neck, the vibratode being passed from above downward over the muscles of the back and the sides of the neck. The facility with which we are enabled to press the fingers down between the muscles renders the hand, used as described below, a most desirable vibratode for massaging the neck; or a vibrator giving the hammer-like stroke can be used here with advantage. To reach the pharynx the vibratode is placed below the angle of the jaw and in front of the sterno-cleido-mastoid muscle and pressed inward and backward. The patient should be carefully watched during the first few treatments, as evidence of approaching syncope has been noticed several times while vibrating over the region of the Vagus nerve.

The larynx is treated by gently grasping the thyroid cartilage on the outside between the forefinger and thumb which are vibrated by the vibratode held firmly, somewhat like a penholder, well up in the crotch, between the forefinger and thumb. In vibrassage of the nose the soft rubber cup vibratode is passed downward over that organ, and on the neighboring sides of the face and above on the forehead. In ear vibrassage the soft rubber cup is passed downward in front of the ear, then behind the ear and over the mastoid and over the space between the mastoid and the angle of the lower jaw, after which it is placed directly over the ear so as to cover the external auditory meatus. In these positions it vibrates the more superficial parts of the ear; in order to reach the deeper portions of the ear and the eustachian tube the vibratode must be taken between the forefinger and thumb as has been described, and the tip of the forefinger which now becomes the vibratode, should be put in the orifice of the external auditory canal.

Another method of vibrating the hand of the operator is with a metal band made to fit over the hand like a sailor's leather palm for sewing or with a ring fitting the forefinger, attached to the vibrator handle. A soft rubber vibratode shaped like the end of the finger can be used for vibrating the ear but I do not consider either of these devices equal to the method just described.

It is strongly urged that the novice in this work first operate on himself, that he may obtain a true significance of the vibrations before

*These instruments are the ones selected by me as properly adapted to the work under consideration.

attempting the treatment of his patients, otherwise he might do them irreparable injury.

The duration of the treatment must not be prolonged beyond the point of stimulation to that of exhaustion. The sensations of the patient and the state of the affected parts generally will indicate the limit. For the first treatment of the ear, for example, three minutes is ample time to be consumed, including that devoted to the neck. As to frequency, some cases require more frequent treatment than others; the decided indication for a renewal of treatment is manifestation of a return of the symptoms which have been dissipated by the vibrassage as is observed at times in acute conditions. In acute disorders daily treatments are required. After the more acute symptoms have disappeared every other day may be found sufficient, and in chronic conditions every other day is the rule; but should the slightest evidence be noticed that the treatment is causing an aggravation of the symptoms the massage should be discontinued, and if improvement does not follow within three or four weeks from the time of beginning it I do not think it advisable to prolong it.

"The shorter the time which has elapsed since the inflammation was acute the more rapidly will it yield to massage, or in other words, we can massage away fresher exudate with greater ease than we can the older." This, however, should not discourage us in the treatment of chronic cases, particularly when we remember how completely residues of long standing may sometimes be removed.

The indications for the use of massage in diseases of the throat, nose and ear are the same as they are for other parts of the body; namely, for the relief of neuralgia, rheumatism, paralysis, enlarged glands which accompany or follow some forms of tonsillitis and (owing to its well known antiphlogistic value and the rapidity with which it removes exudations) acute and chronic non-suppurative inflammatory affections.

Its use in diseases of the nose is limited. It will relieve nasal stenosis due to engorgement of the inferior turbinals but not to that extent and thoroughness reported by Bleyer as following his method of intranasal vibration. In dry rhinitis it will increase the moisture in the nose and it will relieve the intense pain we occasionally encounter over the bridge of the nose extending up over the forehead in certain intranasal inflammatory disorders. It is indicated in acute pharyngitis, non-suppurative and non-membranous, in its many forms, such as is manifested by inflammation of the deeper tissue and of the mucous membranes covering the various anatomical regions in question. In chronic pharyngitis it is likewise of value, particularly in that form known as "pharyngitis sicca," as it will restore the membrane to its normal moisture unless the pathological changes are too great, which however we must understand will not prove permanent should the accompanying intranasal disorder not be rectified.

In pharyngeal paralysis following some acute inflammatory diseases of the pharynx we have a remedy in mechanical massage of unsurpassed value, and the same may be said of it in its use in those affections dependent on the rheumatic diathesis.

Its use in the larynx is probably limited to the treatment of some forms of paralysis, to acute laryngitis due generally to "catching cold" and to the more chronic form of the same disorder so often met with in the professional voice users—singers, public speakers and others.

Referring again to Graham we find on page 448 the statement, "In otology less than in any branch of medicine has massage been found necessary." Graham speaks advisedly and evidently in accordance with his own experience. Being well versed in manual massage and, as we assume, having but little, if any, experience in vibratory massage as here advocated in the treatment of aural diseases, he had learned that, owing to the hard, bony walls in which the ear is encased, its deeper structures could not be influenced except for a certain distance around the point of massage but not to the extent required to relieve deep seated ear lesions. In other words, Graham found ear massage unnecessary, as I take it, because he was unable to get satisfactory results from manual massage. On the other hand, there is scarcely a recent writer on otology or on mechanical massage who does not recognize the value of the latter in the treatment of diseases of ear. Hommel, whose article is one of the most complete on the subject, highly commends its use and gives rather minute description of the conditions in which it should be employed, but my own experience is that, however diligent I was in its employment, the results were not as satisfactory as I had expected until I succeeded in vibrating the parts more thoroughly, as has been herein described.

From the foregoing statement it would, therefore, be but natural to expect that one would be able to massage away the greater part of, if not all, pathological changes found in the middle ear tract due to inflammatory processes, and in this we will not be disappointed provided we do not expect to accomplish more with vibrassage in the ear than experience has proven it capable of doing in other parts of the body. As to breaking up adhesions of the membrani tympani and rigidity of the ossicles, vibrassage compares favorably with pneumomassage which has for some time occupied a foremost position for this purpose in the minds of many otologists and which in my opinion has been much overrated. With pneumomassage one can impart to the membrani tympani a to and fro motion which will break up adhesions but its injudicious use is apt to create too much relaxation; its effect on the rigid ossicles is not so satisfactory as we are sometimes led to expect, nor can we with it massage the middle ear, which is so essential for the ultimate success of treatment, as can be done with the vibrators; therefore its value as a therapeutic agent is but limited.

Omitting a description of the causes, symptoms, pathological changes, etc., of the various diseases of the ear treated, let the general state-

ment suffice that vibratory massage is successfully used for the relief of otalgia, tinnitus, nervous deafness, all acute and chronic cattarrhal, non-suppurative inflammations of the auditory tract, and suppurative otitis after the suppuration has ceased; that is to say, of a great majority of all diseases of the ear which we are called on to treat. Its benefits are more particularly noticeable in otitis media acuta characterized by an acute attack of impaired hearing, tinnitus, sense of fullness in the ear, and sometimes pain; and in otitis media chronica characterized by a more or less continued full feeling of the ear, muffled voice, abnormal sounds, impaired hearing often aggravated on catching cold; both conditions being accompanied by the usual pathological changes in the membrani tympani, etc. My records show cases of acute, subacute and chronic otitis media, at times accompanied with marked deafness and in the chronic form with deficient bone conduction, some having resisted the generally recognized treatment of such disorders which recovered rapidly under mechanical massage; also cases of obstruction of the eustachian tube from catching cold which were promptly relieved and the tendency to recurrence checked; thus demonstrating the thoroughness with which the ear, including the pharyngeal orifice of the eustachian tube, can be vibrated.

34 Washington Street.

County and District Societies.

ADAMS COUNTY MEDICAL SOCIETY.

Regular meetings held in Quincy the second Monday of each month at 2 p. m. Membership 70.

Officers.

President.....Jno. A. Koch, Quincy
First Vice Pres.....J. M. Grimes, Camp Point
Second Vice Pres.....H. Hart, Quincy
Secretary.....Geo. E. Rosenthal, Quincy
Treasurer.....R. J. Christie, Quincy
Censors—Jos. Robbins, L. B. Ashton, E. B. Montgomery, Quincy.

Delegate to the State Society, L. H. A Nickerson, Quincy.

Alternate to the State Society, R. J. Christie, Jr., Quincy.

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The regular monthly meeting of the Society was held May 8th at Quincy with President Koch in the chair.

Those present were Drs. Ashton, Christie, Ericson, Gilbert, Knox, Koch, Nickerson, Knapheide, Noakes, Nichols, Pfeiffer, Rosenthal, Robbins, Worley, Wessels, Williams, W. W., and Williams, G. G.

Routine business was transacted and the Legislative Committee was ordered to interview the mayor for the purpose of securing a representation on the local board of health for the profession.

Dr. Rosenthal presented a paper on **Senile Arteriosclerosis.**

Adjournment.

CHRISTIAN COUNTY MEDICAL SOCIETY.

Regular meetings are held at Taylorville quarterly. Membership 20.

Officers.

President.....C. L. Carroll, Taylorville
1st Vice-President.....C. W. Coe, Stonington
2d Vice-Pres.....M. M. Reasoner, Morrisonville
Secretary-Treasurer..D. F. Morton, Taylorville
Delegate.....F. E. North, Taylorville
Alternate.....M. M. Reasoner, Morrisonville
Board of Censors: M. M. Hill, G. Armstrong and F. E. North.

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The Christian County Medical Society met in regular session in the City Hall, Taylorville, Thursday, April 20, 1905, President Bridges in the chair.

Papers: **Etiology, Pathology, Symptoms and Diagnosis of Typhoid Fever,** G. L. Armstrong, M. D., Taylorville.

The essayist read a very creditable paper, reviewing the symptoms and etiology of Typhoid fever.

The pathology of Typhoid was given in detail to the most minute change, serving to illustrate the intestinal lesions and complications which may present that conflict from the typical case record.

In the diagnosis of Typhoid, special stress was given to the importance of the Widal test, also pointing out some of the fallacies of this test.

Clinical records of cases were shown which proved that the Widal test was positive in most cases, after the 7th day; one case in particular in which the Widal was positive only after 21 days.

Credit was given to the present State Board of Health for their placing at the disposal of physicians of Illinois, the Illinois State Board of Health Laboratory at Springfield.

The above laboratory enables one not conversant with the finer details and practical work, the opportunity of using the Widal test and yet not be bothered by the loss of time which it would require to make the test.

The discussion which followed tended to show that Eberth Bacillus infection was a self limited condition; that intelligent nursing, proper diet, hydrotherapy and hygiene gave the largest percentages of complete recovery. Medicine being a second consideration, although a necessary one.

Drs. Barr of Taylorville and F. J. Eberspacher of Pana were elected to membership.

The above officers were elected for the following year.

CRAWFORD COUNTY MEDICAL SOCIETY.

Regular meetings are held bi-monthly on the second Thursday. Membership 24.

Officers.

President .....Dr. Frank Dunham, Robinson
Secretary .....Dr. H. N. Rafferty, Robinson
Treasurer ..... Dr. C. Barlow, Robinson

The Crawford County Medical Society met in regular session at the office of Dr. Frank Dunham, in Robinson, on Thursday, May 11, 1905.

The following members were present, viz.: T. N. Rafferty, Firebaugh, Fuller, Dunham, A. G. Meserve, Newlin, Price, Cooley, Kirk, Midgett, Mitchell, Barlow, and H. N. Rafferty.

Dr. John Ikemire, of Palestine, was present as a visitor.

The minutes of the previous meeting were read and approved, after which the rules were temporarily suspended, and Dr. Ikemire was elected to membership in the Society.

The first paper of the session was presented by Dr. LeRoy Newlin, his subject being **Abortion.** Dr. Newlin dealt with this subject in a masterly manner, not confining himself to text-book statements, but giving his own general conclusions, and preferences regarding treatment.

The discussion of this subject was opened by Dr. I. L. Firebaugh, followed by all of the members present.

Firebaugh emphasized the importance of syphilis as an etiological factor in women subject to habitual abortion, also the need of complete rest in bed in cases of threatened abortion.

T. N. Rafferty believed that the key-note in the successful treatment of abortion was a complete and aseptic emptying of the uterus.

A. G. Meserve, in speaking of the tampon, cautioned against its use after the fourth month on account of the danger of concealed hemorrhage.

G. W. Taylor thought he had seen as many cases of abortion in his practice as labors at term. Frank Dunham believed the ratio between his cases of abortion and labors at term was probably as three to one.

Dr. J. W. Kirk, of Oblong, read a concise and interesting paper on **Erysipelas,** paying particular attention to the serum treatment. The author stated that he had never been able to accomplish anything by the older methods of treatment, but that he believed we now have a specific in the Anti-Streptococcic Serum.

This subject was discussed by all present, although only a few had used the serum treatment. Erysipelas seems to be quite common in some portions of our county, while the physicians in other portions are hardly acquainted with it of late years.

Dr. C. Barlow read a very complete paper on **The Prophylaxis of Typhoid Fever.** The discussion of this subject was opened by Dr. Mitchell, and was participated in by most of those present.

There seemed to be a general idea that the rules of prophylaxis could be rigidly carried out only with the co-operation of a competent trained nurse.

At the request of the Society, Dr. Fuller reread his paper on **Auto-Intoxication vs. Malaria.** This paper was well received, being discussed by several members, each emphasizing the importance and frequency of auto-toxaemias.

Dr. H. N. Rafferty presented a specimen of a uterus removed per vaginam, which exhibited a malignant degeneration of the cervix, with a large sub-mucous fibroid of the fundus. The patient's convalescence was satisfactory up to the beginning of the sixth week, when she was suddenly seized with dyspnoea and pain in the chest, and died in a short time—probably from one or more pulmonary emboli.

Dr. Rafferty also showed the ovaries removed from a woman of 32 years, who had suffered with a diffuse pelvic inflammation following child-birth. The right ovary had an abscess cavity which had contained two drachms of thick pus, while the left one showed a hematocele of about the same size.

The secretary reported that he had received a dozen containers for sputum, from the secretary of the State Board of Health, and that the same were for distribution among the physicians of the county.

The specimens are to be sent to the bacteriological laboratory of the board by mail, where the examination will be made and the report sent to the physician, free of expense.

On motion, the Society adjourned, to meet the second Thursday in July, at which time the twenty-fifth anniversary of the Society will be celebrated by an extra program, and a banquet in the evening.

GALLATIN COUNTY MEDICAL SOCIETY.

Regular meetings are held monthly on the second Wednesday. Membership, 65.

Officers.

President.....F. A. Jones, Ridgeway
Vice President.....I. A. Foster, New Haven
Sec. and Treas....J. W. Bowling, Shawneetown

At the Shawneetown meeting in April Dr. F. A. Jones of Ridgeway was elected President, I. A. Foster of New Haven Vice President, and Dr. J. W. Bowling of Shawneetown Secretary and Treasurer.

Our Society met at New Haven Wednesday, May 10, at Masonic Hall. In the absence of President Jones, Dr. Foster presided. The following members were present: Drs. I. A. Foster and John Barnett of New Haven, Dr. W. E. McGuire of Cottonwood and Drs. W. H. Grattan, A. B. Capel, Paul Sherman and J. W. Bowling of Shawneetown.

An interesting paper was read on **Membranous Croup** by Dr. McGuire and discussed by all members present.

Some minor business was transacted by the Society.

Drs. Barnett, McGuire and Grattan were appointed to prepare a program for next meeting, which will be held at Shawneetown Wednesday, June 14, at 4 p. m. and at night. Every physician in the county is requested to attend this

meeting, as several papers of interest will be read and discussed.

At the April election Dr. I. A. Foster was elected mayor of New Haven.

Dr. John Barnett was elected supervisor of New Haven township.

MACOUPIN COUNTY MEDICAL SOCIETY.

Regular meetings are held semi-annually the third Tuesday of April and October. Membership 40.

Officers.

President ..... S. A. Huffman, Chesterfield
Vice President ..... E. A. Bieuler, Carlinville
Secretary-Treas....J. Palmer Matthews, Carlinville

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The Macoupin County Medical Society met in the Masonic reading room at 11 a. m., April 25, 1905, with Dr. E. A. Bieuler, of Carlinville, in the chair.

Roll call was answered by the following members: Drs. J. M. Barcus, E. A. Bieuler, J. S. Collins, J. P. Denby, S. H. Corr, C. J. C. Fischer, John P. and J. Palmer Matthews, all of Carlinville; G. E. Hill, R. S. Cowan, and R. J. Mitchell, of Girard, and J. W. Thompson, of Nilwood.

Minutes of preceding meeting were read and approved.

The Treasurer's report showed $3.25 in the treasury.

The Censors reported:

For President—E. A. Bieuler, Carlinville.

Vice President—E. K. Lockwood, Virden.

Secretary-Treasurer—J. Palmer Matthews, Carlinville.

Next place of meeting—Virden.

Essayists—C. A. Allen, of Virden; W. B. Dalton, Scottville; A. G. Kinkead, Greenfield.

Signed: Drs. Fischer, Denby and Barcus, Censors.

The report was adopted on motion of Dr. John P. Matthews.

Afternoon Session: Dr. Collins made a report of a case of **Parenchymatous Nephritis, following Scarlet Fever.** Albuminurea and pyuroa was found to clear up and recur intermittently.

Dr. Black, in the discussion, said: All remedies are palliative. Stripping the capsule from the kidney simply relieves the congestion of the vasa vasorum in the glomeruli of the kidney, forestalling degeneration.

Dr. Carl Black, of Jacksonville, addressed our Society as Councilor from District No. 6. He spoke of the benefits of the Society organization to the members collectively and individually. He disparaged rivalry in price cutting, sending cases out of town, and then skinned doctors who take offense when their opinion is questioned. Rivalry should be encouraged in purchase of journals, and up-to-date instruments and an occasional post graduate course in New York.

Come, again, Doctor, next year!

Dr. John P. Matthews read an essay on **Rheumatism.** The term rheumatism is from the Greek verb rheo, to flow. The doctrine of Hippocrates and Galen was that the morbid condition or cachesia which favors the development of such fluxes is rheumatism. Galen thought that in any morbid condition the quantity of nutriment supplied to a part is greater than it is able to assimilate—the surplus may undergo unhealthy changes and the phlegm or excrementitious humor which results would produce morbid alterations in the parts. If it remained it was often driven by so-called "expelling faculty" to other parts of the body, through the blood vessels, pores or passages of the body. This with the Hippocratic idea that all fluxes, diarrhoeal or catarrhal, are included in the term give origin to the name rheumatism. The word illy describes the pathology now described, except rheumatic fever with its fluxes into the synovial and cardiac cavities.

The wordy warfare between Bastian and Pasteur over the spontaneity of generation within our own recollection gave the Great Lister the thought that the danger from all surgical cases came from without. And the great Tyndall proved by his beef juice cultures that the germs of disease were ever present when its receptacles were left uncovered.

This left such observers as Klebs, Eberth, Koch and others to give to the astonished medical world the belief that all infectious diseases were at least of germ origin Here history will forever record the great step forward in medical history. This step was opposed bitterly by many old teachers who stuck to their old theories that were hard to explain. Such excellent men as the late Nestor of the A. M. A. fought fiercely for years the germ theory and well does your essayist remember the battle royal on the floor of the Association at New Orleans between him and the late James T. Whittaker, of Cincinnati.

The history of rheumatism is the history of medicine. It is the opprobrium medicinae of the profession. Since the ages of Hippocrates and Galen, Celsus, Sydenham to Virchow.

It has passed through the scrutiny of naturalism, empiricism, humoralism, solidism, neuropathology, phlogisticism, and vitalism, down to the great author of cellular pathology.

History will forever record the step from cellular pathology to the germ theory of disease. The best argument of the germ theory advanced by the old and revered teachers was found in the fact that chronic rheumatism was a complaint in which germs could not be found, and that the inflammatory type only could be thought to resemble germ infection. While bacteriologists were at work all over the land experimenting with cultures from the blood of lower animals to give medical thought another step in history, Haig, of London, Eng., was experimenting on himself to find out the cause of a painful migraine from which he had suffered for several years and that medicaments only temporarily relieved. Careful examination of his own secretions convinced him that too great abundance of proteid food with tea, coffee, etc., figured largely in the cause of the migraine by overwhelming excretions and producing some failure of the metabolic activity of the liver, skin and kidneys, causing the urea to become unoxidized, and uric acid formed. This Haig found conclusively to be the cause of his migrain.

His work on uric acid in disease, together with Bouchard's great work on auto-intoxication, your essayist fully believes, deserves much more consideration at the hands of the united profession than it receives.

Pardon is asked if it be said that the trouble with our medical book makers is that they find a David with his little sling shot to down any Goliath in medicine who may appear at the front. Because proprietary medical firms exploit uric acid as the cause of all diseases gives poor reason for saying it does not produce any; that it is not uric acid but aloxuric or purin bases, Xanthin, Hypoxanthin, etc., that does.

Over forty years' study and observation as well as experimentation on myself have proven to me that the human family are divided into three types or diatheses, which for brevity may be called acid, neutral and alkaline. In an essay read to this Society in Modesto ten years ago on pulmonary tuberculosis, I took the advanced ground that the disease was not hereditary but the diathesis was. The acid diathesis is inimical to the attacks from the tubercle bacillus. Another observation in the same essay was that pulmonary tuberculosis never followed croupous or lobar pneumonia because it belonged to the acid diathesis, but that lobular or bronchial pneumonia belonged to the alkaline diathesis, and for this reason required the watchful care of the physician to ward off the tubercular attack.

Ground was also taken that scrofula belonged to the alkaline diathesis. After cold, la grippe or lobular pneumonia bronchial gland involvement produced the nidus for the bacillary attack, thereby proving scrofulosis to be undoubtedly an hereditary disease. This is the reason for the popular belief that tubercular consumption is hereditary, where scrofulosis is the undoubted affection that produces it. This reasoning has helped the essayist in the treatment of the chronic diseases classed in the two diatheses causing more careful selection of the remedies for the conditions found. It should give the younger members food for thought. All old authors speak of strumous diatheses, and Watkins' works of forty years ago, before Koch's discoveries, blended scrofulosis and tuberculosis so that it was hard for the student to separate them. All writers agreed that they were hereditary and none expressed a doubt of the heredity of the gouty or lithemic diathesis. The etiology of rheumatism is an auto-intoxication. The difference between this and ptomaine poisoning is that the leucomanies of the aloxin or purin bases and uric acid are a result of a faulty hepatic metabolism of proteid digestion. Uric acid is an unoxidized urea and is retained in excess within the organism when proteids are taken as food in excess of what the liver can oxidize, giving rise to a dyspeptic condition, which usually precedes all attacks. The derangement of the vital chemical functions causes a faulty elimination of the products of such metabolism, resulting in auto-intoxication.

Urea has the formula of CoH^2N^4, with a normal relation to uric acid in formation of about 35 to 1. While the aloins or purin bases—that our own Billings believes to be the factor while combatting the Haig theory—has the difference only that each has less oxygen in its composition.

This proves pretty conclusively that when uric acid is in excess it is caused by impaired oxidative powers of the liver in transforming food products. The auto-intoxication of the body as a whole and of certain tissues found affected is a result of defective metabolism in the vital chemical functions of the system.

When the kidneys fail to eliminate urea from overwork, it becomes an irritant poison, causing uremia and death with convulsions.

When not sufficient to cause such dire consequences, it presents symptoms found in those who worship at the shrine of Bacchus. I have given it the name of American gout. I do not doubt the greatest tendency to appendicitis of late is due to the increased amount of animal food used in the last decade in the United States. Cider, wine, beer and beef caused the British great toe to ache, which condition has been transferred to the appendix and intestines of the American meat eater. The kidneys filter the blood of urea and uric acid and become so inflamed that when uric acid is irritating it causes forms of nephritis in the lithemia.

Whether Professor Bouchard's claims are true that uric acid is derived from the neuclein of the white blood cells or that it results from neuclear destruction of tissues, xanthin, hypoxanthin, adema and granin constitute nuclear bases. They are nitrogenous and are derived from the nitrogen of the food ingested. These neuclear bases vary little from each other chemically and have a close relationship with uric acid and its formula $C^5H^4N^4$. They are also called purin bases.

Professor Billings contends that these and not uric acid are the offenders, and objects to Haig's theory as a consequence.

The etiology of rheumatism is faulty hepatic metabolism of nitrogenous ingesta, and acid dyspepsia results with an unoxidized urea and auto-toxemia.

Pathology: In the acute form the fever is due to a micro-organism. This seems true from its resemblance to the gonorrheal form, which is certainly due to toxins of the gonococcus. The toxins must result from the micro-organism of lactic acid fermentation, and has a specific selection for the synovia and pericardium. Later in life the vegetations of the endocardium desert their resting place for the cerebral arteries, causing embolism. Other pathological results of the acute form are permanent roughness of the articular surfaces involved with crackling of the joints on motion. This differs so much from biurate of soda tophi in rheumatoid arthritis which are deposited around them, forming nodules which produce the deformities. The more chronic results to the lithemic are lumbago, pharyngitis, pleurodemia and rheumatic-iritis and sciatica.

Gout of the stomach and intestines is an American gout, and while a little more acute has the same etiological factors as the great toe disease of our English cousins. This includes all forms of acute dyspepsia, especially hyperchlorhydria.

Old men by their aches prior to a meteorological change claim to foretell a storm. A low barometer causes the rhumatic pains by changing the normal pressure on the nerve endings, rendered sensitive by urates in the tissues.

The diagnosis of chronic rheumatism and gout is extremely difficult to differentiate. The acute form in the young, before the age of 30, with its fever and sweats and tendency to attack serous membranes, is not hard to distinguish from gout with its inflammation of the great toe joint. But in sub-acute affections of joints before tophi begin to form it is hard to differentiate.

The subjects of the acute forms are prone to attacks of gout in after life. Ben Franklin described in a letter to a friend most vividly after one of his gouty fits. These painful fits are like in kind, differing only in degree and location from acute attacks of gouty rheumatism or if you please lithemic pharyngitis, acute dyspepsia, gastralgia, iritis or synovitis.

The symptoms and nature of which vary in different individuals and are supposed to depend on individual predisposition. The most obvious are digestive and hepatic disorders, attended with marked flatulence, eructation, heartburn, acidity, constipation, in short, auto-intoxication.

Cohen of Philadelphia labored hard in an essay to the Pan-American Congress to differentiate a lithemic pharyngitis called gouty from a rheumatic case. The same might be said of lithemic iritis. Shoemaker in his clinics calls gouty tophi in the joints rheumatoid arthritis, but where the tophi are not present and instead a roughening and destruction of articulating cartilages and contracted tendons he calls arthritis deformans.

There are different manifestations of chronic lithemia—call them what you will!

The prognosis of that form dependent on faulty elimination of urates is favorable. The so-called American gout where the emunctories have become overtaxed and the urea overwhelms the nerve centers, causing uremic convulsions, is a more serious matter. I wish to warn the younger members that a bilious attack is a mild uremia. Prognosis of endocarditis should be guarded.

The treatment of rheumatism has proven to be the bete-noire of our profession, especially the chronic forms. When the time comes that young men are sent out from the medical schools with a better equipped knowledge of the therapeutics and pathology of this subject instead of so much attention to asepsis, antisepsis, the scalpel and curette we shall have less talk among the lay of incurability of rheumatism. And we will find fewer devotees to the fads of homeopathy, osteopathy, mental and christian science, et id genus omnii, which are only a suggestive and only a form of mechanical therapeutics. A case apropos: A man well up in years drove to the office on whom osteopathy, Hot Springs and other fads had failed. He could not walk without crutches. Was well fed, convivial, had his daily toddies as well as abundance of meat, tea and coffee. He said: "Doctor, can you do anything for this blanked rheumatism?" The answer was: "Yes, it is as amenable to treatment as any other ailment provided it has caused no organic lesions. You will have to live up to a strict dietary or no medicines known to the profession will do you good." His reply was: "I'll be blanked if I cheat my stomach the remainder of my days!" and he drove away.

One should refuse to treat patients who will not restrict their diet. For your reputation will suffer and they will fly to the fads of rubbing and osteopathy.

That rheumatism is an acute toxemia was proven to me by two cases early in my practice. While on crutches from a three months' siege that followed acute dysentery and while in charge of the regimental hospital of the 122nd regiment at Corinth, Miss., a soldier was brought in with high fever, the joints of extremities swollen to the full capacity, the excessive pain eliciting the greatest sympathy from his comrades who attended him. The meagre pharmacy supplied by the government was blue mass, opium and colchicum to treat the case. A pill of colchicum was given, alternating with blue mass. The drug was poor in quality, so the dose was doubled and the time shortened from four to two hours. During the night an emeto-cathartic effect occurred. The amount of material that passed both ways astonished the attendants! The result was equally astounding, when on the fourth day the soldier was out and bantered his surgeon for a foot race. He was on crutches himself and could not accept!

Case 2, in Carlinville, a few years later: Mr. B, hotel clerk, was threatened with a second attack of fever and swollen joints which had been diagnosed by an eclectic as spinal meningitis. After giving him calomel, leptandrin and soda with sufficiently large dose of podophyllin to produce an emeto-cathartic effect, his expected three months' spell only lasted three days. He said: "I did not believe it possible to live with so much rubbish in me!" These experiences have been mentors of a rule to clean out, clean up and keep clean the alimentary canal.

Today the treatment of rheumatism is salicylic acid and its compounds, which simply allay pain and reduce fever through the antiseptic effect on the alimentary canal. It destroys fermentation, which is the cause of rheumatism, and it certainly is, as the books call it the anti-rheumatic remedy. The book makers, who do not practice medicine, hand down the farce from Sydenham's time that chorea is rheumatic, and recommend arsenic as its anti-rheumatic treatment. Let me protest that chorea is a neurotic disease for which arsenic is a remedy.

If my researches are correct, the faulty hepatic metabolism needs something in the shape of a better alterative than salicylates to correct the evil. The salicylates, electricity, hot baths, hot air, and strict attention to all the eliminative organs are indicated. On the principle of withholding all saccharine and starchy foods in diabetic cases, with good results it must follow as an axiom that to intelligently treat lithemia the proteid ingesta should also be eliminated.

Salt should be withheld in hyperchlorhydria. This, with carefully endeavoring to keep the emunctories open, liver, skin, and kidneys, you will fulfill the requirements of the great trust imposed upon you by your suffering patients in the treatment of this disease.

A vote of thanks was given the essayist and the paper was, on motion of Dr. Fischer, accepted as a contribution to the Society.

A motion to adopt an amendment to the by-laws to comply with the annual assessment of the State Society was carried over for final action next meeting.

Dr. J. Palmer Matthews reported and showed a case of hip joint disease of two years' standing treated by the X-ray. A report on the case by the bacteriologist of the State Board of Health was read, saying the exudate from the sinus contained no tubercle bacilli. The prognosis of an ultimate recovery was good.

Dr. E. A. Bleuler was elected to represent the Society at Rock Island in May at the State Society and was instructed to vote for the endorsement of Dr. Pettit, of Ottawa, as secretary of the State Board of Health.

The Society then adjourned.

MERCER COUNTY MEDICAL SOCIETY.

Regular meetings are held at Aledo, quarterly.
Membership 25.

Officers.

President.....H. S. Allen, New Boston
Vice President..H. H. Sherwood, New Windsor
Secretary-Treasurer..V. A. McClanahan, Viola
Board of Censors—J. W. Ramsey, Aledo; T. C. Hainline, Seaton; Walter Miles, Viola.

The Mercer County Medical Society held the annual meeting in Aledo May 9, 1905, with the President, Dr. C. W. Carter, in the chair. Although the day was very stormy, the attendance was good, about twenty of the physicians of the county being present.

It was decided to hold only two meetings annually hereafter, instead of four, as formerly, the two meetings to be held in May and October and the May meeting to be considered the annual meeting.

Drs. G. H. Moore of Joy, B. R. Winbigler of Seaton, Matthew O'Haver of Millersburg were elected to membership in the Society.

Officers were elected as above for the ensuing year.

Dr. C. W. Carter was elected delegate and Dr. A. N. Mackey alternate to the meeting of the State Society in Rock Island.

The Society listened to carefully prepared papers on **La Grippe** by Dr. J. W. Ramsey and **Pneumonia** by Dr. I. E. Burtnette. The papers were enjoyed and freely discussed by the members.

The address of the retiring President, Dr. C. W. Carter, was on **Ethics,** and was very instructive. It was decided that the Society furnish its members with a copy of "The Principles of Ethics" of the American Medical Association.

Dr. M. G. Reynolds gave a resume of the matters of interest to the medical profession that came before the last session of the legislature. Our Society is honored in having one of its members in the legislature and we feel that we could have no more worthy and able representative at Springfield than Dr. Reynolds.

A resolution of thanks to Dr. Reynolds for his efficient work in the legislature was introduced by Dr. McMillan and passed unanimously.

Society adjourned to meet in October.

MORGAN COUNTY MEDICAL SOCIETY.

Regular meetings are held in Jacksonville the second Thursday of each month.
Membership 12

Officers.

President.....J. W. Hairgrove, Jacksonville
Vice President..Josephine Milligan, Jacksonville
Secretary-Treasurer....D. W. Reid, Jacksonville

The Morgan County Medical Society met in regular session Thursday, May 11, at the Public Library; present, 19 members.

The minutes of the April meeting were read and approved.

Dr. A. J. Ogram of Jacksonville was elected to membership.

Dr. C. E. Black spoke of the non-attendance of members outside of the city. He suggested that following the plan of some other societies we might have a special visiting committee to visit and hold meetings in remote parts of the county.

Dr. Wakely said he thought the Society's action in changing the time of meeting from afternoon to evening could well be taken as an invitation for outside members to stay away.

Dr. Reid said that the average attendance, while largely confined to the city members, had greatly increased since the time had been changed from afternoon to evening.

Several bills were presented and ordered paid.

Dr. Milligan reported for her committee that the Morgan County Society had been formally affiliated with the State Society for the Prevention of Tuberculosis.

Dr. Pitner reported the death of the "Osteopathy bill" in the General Assembly, together with the contributory causes leading to its demise.

Dr. Baker reported at length for the committee appointed to investigate the city ordinances of Jacksonville, and to suggest changes that should be made to bring them into line with medical progress of the present day. He said the present ordinances were drafted years ago and that they were quite deficient in many respects. He said they were out of harmony with legislation on the subject, that there was in reality no such a thing as a board of health in Jacksonville, and no provision for quarantine of contagious diseases. The subject of quarantine was discussed at length, and the assertion made that the word "quarantine" does not appear in the city ordinances. He said the duties of a board of health were exercised by the health warden.

After considerable discussion, on motion of Dr. Pitner, the committee was continued, with instructions to prepare suitable amendments to the city ordinances for the consideration of the Society at its next regular meeting.

Dr. Chas. Cole read a paper on **Albuminuria,** and Dr. William Percy Duncan read a paper on **Foetal Endocarditis,** with specimens. A synopsis of these papers is given below.

Dr. C. E. Cole read a paper on **Albuminuria,** with special reference to what is often falsely called functional or physiological albuminuria. The writer would make the microscopic examination secondary to the gross examination of the patient and the 24 hours urine. He would drop the terms functional and physiological, and recognize the presence of albumen in the urine as evidence of a pathological process or condition somewhere. He desired to show that an albuminuria does not always indicate a kidney lesion, but that it does indicate a pathological condition somewhere, while the absence of albumen does not preclude the possibility of a nephritis.

Having begun with the end product, urine, and having found that it contains albumen, we must reason backward to find the source; the albumin itself being of no practical importance. It is of sufficient diagnostic importance, however, to make us ask, Can a diagnosis of a pathological condition be made by the presence of albumin in the urine? Yes, it can, and in 95 per cent of all cases the particular lesion can be located.

In order to do this it is necessary to consider the patient in general, and the urinary tract in particular, from kidney to urethra.

The writer differentiated among the different sources of albumin in the urine, first, as to the source; whether serum albumin or from blood or pus entering at any point of the urinary tract, giving information as to the nature of the pathological condition; second, as to the origin or location of the pathological condition, whether in the urethra, the prostate, the bladder or the kidney.

He made a report of three cases illustrating albuminuria of obscure origin, all of which responded to treatment, and at least apparently recovered from the condition causing temporary or transient albuminuria.

Dr. W. P. Duncan read a paper on **Foetal Endocarditis,** giving the post mortem findings in a case together with specimens showing valvular vegetations. The reader reviewed briefly the anatomy of the circulatory apparatus at birth, and the changes that take place shortly thereafter. Following are some extracts from his paper:

Usually the symptoms of congenital endocarditis are shown soon after birth. Of 128 cases, 85 showed in first month; 18 from one month to one year; 15 from 1 year to 16 years; and 10 after puberty. (Holt.)

Cyanosis is the most prominent symptom. The "blue baby"—color permanent or when crying. This is often the first symptom that calls attention to trouble. When this symptom is absent, cardiac disease is apt to be overlooked. The blue color may be slight, and only observed when there is severe crying or coughing. Later symptoms are dropsy and clubbed fingers.

In the absence of history of rheumatism, a murmur at the apex, a transmitted loud murmur at the base, cyanosis, enlarged right heart in a child under two years may be set down as symptoms of congenital rather than acquired disease.

The prognosis is exceedingly grave. Many succumb with in a few days after birth; more than one-half during the first year.—(Anders.)

The specimen presented showed the result of a post mortem. The child, of a healthy mother, was delivered by a mid-wife. Labor, normal, easy; child's weight, 7½ pounds. Child slow to cry, and cry feeble; cried little; slow to nurse. Restless in sleep. On second day child was darker when crying, and coughed somewhat. On third day had severe crying spell and apparently went to sleep; later was found to be dead. A postmortem was ordered and conspicuous among other cardiac, with their associated pulmonary changes, was the condition of the right auricle, which was filled with clotted blood, and a piece of polypoid vegetation, size of the end of the thumb, was wedged in the tricuspid valve, attached by a slender base to the valve, causing sudden death.

PEORIA CITY MEDICAL SOCIETY.

Regular meetings are held in the Observatory Building, Peoria, on the first and third Tuesdays of each month. Membership 77.

Officers.

President ..... Dr. J. C. Roberts
First Vice President ..... Dr. E. E. Gelder
Second Vice President ..... Dr. B. M. Stephenson
Secretary .....Dr. W. R. Allison
Treasurer ..... Dr. Jeanette Wallace
Member of the Board of Censors..Dr. A. J. Kanne

Meeting was called to order by the president, Dr. J. C. Roberts.

Roll call showed the following officers present: Roberts, Gelder, Stephenson, Allison and Lucas.

Minutes of the previous meeting read and approved.

Dr. Lucas reported that the applications now in the hands of the Board of Censors were to be reported by Dr. Green. The latter gentleman was unavoidably detained from being present.

The Secretary announced the death of Mr. Kanne, father of our fellow member, Dr. A. J. Kanne, and moved that a committee of three be appointed to draft suitable resolutions expressing the sentiment of this Society. The Chair appointed Drs. Allison, Probst and Sidley a committee of three to write the resolutions.

The President introduced the essayist, Dr. F. B. Lucas, who read a paper on **Flat Foot; Its Recognition and Treatment.** This paper showed much care and study in its preparation. The discussion was opened by Dr. Roskoten, who complimented the reader and gave some personal experiences. Dr. E. L. Davis made a few remarks, after which Dr. Lucas closed with a few statements.

Dr. Roberts at this time introduced Dr. R. L. Baker (Coroner), who gave a detailed report relating a reported abortion recently committed, which was freely discussed by some of the members.

Resolutions adopted by the Peoria City Medical Society relating to the death of Dr. Kanne's father:

Whereas, Death has removed from us a valued citizen and father of our esteemed colleague, Dr. A. J. Kanne.

Be it resolved, That the Peoria City Medical Society express to Dr. Kanne our sympathy, and that these resolutions be spread upon the records of our Society, that future generations may know that we took due recognition of our fellow member when in sorrow.

Nothing further was brought before the Society and it was moved that we adjourn.

Number of members present was 22, as follows: Roberts, Lucas, Gelder, Hanna, Fourter, Roskoten, R. L. Baker, E. L. Davis, Sedgwick, Heald, J. S. Miller, S. M. Miller, Sidley, Bain, Webber, Barbour, Cooper, McFadden, Wulstein, Stephenson, Eckard and Allison.

PIKE COUNTY MEDICAL SOCIETY.

Regular meetings are held quarterly. Membership 32.

Officers.

President ..... T. W. Shastid, Pittsfield
Vice. Pres. ..... F. Marion Crane, Pittsfield
Sec'y.-Treas. .....R. H. Main, Barry

At a meeting of the Pike County Medical Society held on April 27th, at the office of Dr. H. T. Duffield in Pittsfield, the following members were present:

H. T. Duffield, F. M. Crane, W. W. Gay, L. J. Harvey, T. W. Shastid, Wm. E. Shastid, R. O. Smith, R. J. McConnell, J. Smith Thomas and R. H. Main.

Visitors present, Dr. Carl E. Black of Jacksonville, and Mr. E. W. Baker of Barry, Ill.

Minutes of the previous meeting were read and approved.

The names of Dr. J. E. Miller of Pittsfield and Dr. H. C. Loveless of Griggsville were presented for membership. By a vote of the society the by-laws were suspended and both applicants were elected to membership.

The above officers were elected for the ensuing year.

Dr. Harvey Dunn of Perry, was elected an honorary member of the society.

Dr. W. W. Gay addressed the society on the subject of **Amoebic Dysentery** of which, he stated, he had had a number of cases and had, himself, been afflicted.

All the cases had been treated successfully by washing the colon with solutions of quinine sulphate.

Dr. R. H. Main also reported a case of **Amoebic Dysentery** which he successfully treated in the same manner, with the addition of large doses of sulphur by stomach, after the method advised by Dr. S. Flexner.

Dr. H. T. Duffield addressed the society on the subject of **Measles.** This subject was thoroughly discussed as there has been an epidemic in this county recently.

Dr. F. Marion Crane read a paper on **The Pernicious Effects of a Continuous Excessive Proteid Diet in Infancy.**

Dr. Carl E. Black of Jacksonville addressed the society.

Dr. L. J. Harvey was appointed delegate to the State meeting.

VERMILION COUNTY MEDICAL SOCIETY.

Regular meetings are held the second Monday of each month in the city hall, Danville, at 8:30 p. m. Membership 71.

Officers.

President.....F. N. Cloyd
Vice President.....S. L. Landauer
Secretary-Treasurer.....C. E. Wilkinson
Board of Censors—H. F. Becker, Joseph Fairhall and Benj. Gleeson.

The Vermilion County Medical Society met in regular monthly session in the council chamber, May 8, 1905, with President F. N. Cloyd in the chair.

The minutes of the April meeting were read and adopted.

Members present: H. S. Babcock, H. F. Becker, E. E. Clark, F. N. Cloyd, E. B. Coolley, Benj. Gleeson, D. V. Ray, Theo. Regan, M. Sahud and C. E. Wilkinson.

The essayists for the evening, Dr. T. E. Walton and Dr. W. J. Brown were not present so the society did not have any paper for the evening.

After explaining that he would be unable to present his paper on **Summer Diarrhoeas in Children** at the June meeting, Dr. Coolley made a motion that the papers by Drs. Walton and Brown which were due for the (May) meeting be presented at the June meeting. The motion received a second and carried.

Dr. Coolley reported cases peculiar to a tract of country about fifty miles square along the Snake river that are termed "Spotted Fever" by the physicians in that community. Under proper treatment which depends principally on the free administration of calomel, most every case recovered.

After this the subject of "Milk Fever" was brought up for discussion and some interesting experience was related.

The society adjourned to meet the second Monday evening of June.

WABASH COUNTY MEDICAL SOCIETY.

Regular meetings are held at Mt. Carmel, quarterly. Membership 18.

Officers.

President ..... W. B. Moon, Bellmont
Secretary ..... J. B. Maxell, Mt. Carmel

The Wabash County Medical Society met April 25 and enjoyed a most interesting and valuable time.

Dr. J. H. Tanquary, Professor of Orthopedic Surgery of Barnes Medical College, St. Louis, was present and gave a very interesting and scientific paper on **Tuberculosis and Tubercular Arthritis.**..This was discussed by nearly all present.

The following were elected officers for the ensuing year:

Dr. R. J. McMurray, St. Francisville, President; Dr. S. W. Schneck, Mt. Carmel, Vice President; Dr. J. Schneck, Mt. Carmel, Treasurer; Dr. G. C. Kingsbury, Secretary.

The Society instructed the President and Secretary to write to the senator and representatives from this district and request that they

vote against the bills now pending in the legislature regarding the changes of laws governing the medical practice, as such will tend to lower the medical standard, and subject the people to unscientific and dangerous treatment.

We hope for a very useful year in our Society, and will meet again the third Tuesday of July.

WASHINGTON COUNTY MEDICAL SOCIETY

Regular meetings are held at Nashville on the second Thursday of April and October. Membership 13.

Officers.

President.....J. J. Troutt, Nashville
Vice-President.....R. A. Goodner
Secretary.....David S. Neer
Treasurer.....S. P. Schroeder

The Washington County Medical Society met in regular session at the Socialists Hall, Thursday, April 13, 1905.

The following members were present: J. J. Troutt, S. P. Schroeder, R. A. Goodner, J. F. White, R. B. Jack, W. D Carter, R. E. Vernor, F. C. W. Obert, D. S. Neer.

Minutes of last meeting was read and approved. Society then proceeded to the election of officers for the ensuing year which resulted in the choosing of the above.

The society was then favored with a very instructive and interesting paper on **Diabetes Mellitus** by Dr. S. P. Schroeder in which he related the history of several cases that he had met with in his practice. A general discussion followed which was participated in by Drs. Goodner, Troutt and Carter that brought out many ideas on the subject of real practical worth.

There being no other papers to present, a "Round-the-Table" talk upon various topics of professional interest was engaged in by all present and proved to be not the least valuable feature of the meeting. Several pledged themselves to prepare articles to be read at the next meeting.

Society then adjourned to the second Thursday in October, 1905.

State Eclectic Society.

The Illinois State Eclectic Medical Society held its annual meeting at Peoria May 16, 17 and 18. A resolution was passed providing that all teachers in eclectic medical colleges should be graduates of eclectic schools. A banquet was held at the National Hotel which was attended by 70 guests.

The officers elected were:
President—H. E. Whitford, Chicago.
First Vice President—F. W. Range, Roseland.
Second Vice President—Ethel Richardson, Quincy.
Secretary—W. E. Kinnett, Peoria.
Treasurer—W. B. Matthew, Blue Mound.
Corresponding Secretary—W. T. Pollock, Chicago.

NEWS NOTES.

The German Hospital, 754 Larrabee street, of which one Burmeister is superintendent, has been under investigation for some time because of the death of a patient about a year ago. It is charged that the patient was given a dose of lysol instead of beef peptonoids. Nearly every reputable member of the staff has resigned.

The coroner's jury of Peoria county on May 10 brought in a verdict against Dr. Parker of Peoria and his assistant, John Peattie, for the death of Mrs. Spellman Calhoun of Averyville. The charge is murder caused by a criminal operation. Both men were committed to jail without bail.

The bids for the John Warner Hospital at Clinton have been opened and the contract will soon be let. The hospital complete will cost $20,000.00.

A daughter was born to Dr. and Mrs. Guy Dowdall of Clinton, June 3.

Eight physicians recently located in Decatur during one week.

Dr. Chas. Patton has located in Springfield.

Dr. Walter Hodges has located in Hillsboro.

Dr. P. W. Monroe of Franklin, Ind., has located in Springfield.

Dr. W. A. Kirby is postmaster at Chestnut.

Dr. G. F. Meade was elected mayor of Pinckneyville, at the last election.

Taylorville is making a move for a city hospital. Maj. Wm. F. Van DeVeer has donated a site and given money for this purpose.

Dr. John B. Murphy has resigned the chair of surgery in the Northwestern University and has accepted the same position at Rush Medical College.

Dr. Lucien Coley of E. St. Louis has moved to Pittsfield and will practice medicine in partnership with his father-in-law, Dr. C. H. Doss.

Dr. E. K. Lockwood of Virden and **Dr. W. W. Van Wormer of Girard,** have gone to Baltimore for a post-graduate course.

Dr. R. S. Cowan of Girard has gone to Tennessee to visit the scenes of his boyhood.

Dr. John Denby of Carlinville with his brothers Chas. and Walter has purchased the Palmer farm near that city, of 615 acres for the sum of $22,000.00.

Dr. Frank Buckmaster has returned to Altamont to practice his profession.

Dr. J. W. Pettit of the Consumptive Colony at Ottawa, has gone to Colorado and New Mexico to study the hospitals for the treatment of consumption, located in those states.

High Temperature.

"Your temperature is pretty high this morning," said the doctor.

"I hope it's no higher than I can afford to have it, doctor," said the cautious patient.—Yonkers Statesman.

Marriages and Deaths.

MARRIAGES.

Gilbert Fitzpatrick, M. D., to Miss Agnes M. Wyman, both of Chicago, June 1.

Frank B. Harmison, M. D., Chicago, to Miss Sylvia Powers, of Peoria, Ill., April 26.

Philip C. Hay, M. D., Chicago, to Miss Helen Davis of Oshkosh, Wis., May 3.

J. C. Hall, M. D., Decatur, to Miss Clara Turpin of Oreana, Ill., May 3.

Albert F. Henning, M. D., Chicago, to Miss Mary B. Meager, of St. Paul, Minn., April 26.

Ralph E. Jennings, M. D., Chicago, to Miss Edna G. Gill of Warsaw, Ind., April 23.

L. A. Jones, M. D., to Miss Eva May McElhiney, both of Alton, at Murphysboro, June 7.

John C. Outhet, M. D., to Miss Gertrude C. Paul, both of Chicago, at Rockford May 5.

Louis E. Schmidt, M. D., to Miss Marie Mansfield, both of Chicago, June 1, 1905.

Robert Conover Wilson, M. D., to Miss Louise Crepin Hoyt, both of Chicago, April 26.

Wm. M. Young, M. D., to Mrs. Edith Blinn Cosby, both of Lincoln, May 14.

DEATHS.

Jared Bassett, M. D., Albany (N. Y.) Medical College, 1839, died at his home in Evanston, Ill., May 10, from pneumonia, aged 91.

William H. Brown, M. D., Illinois, 1893, of Butler, Pa., died at his parents' home in Browndale, Pa., May 21, after a long illness, aged 42.

William Wallace Burns, M. D., University of Louisville Medical Department, 1843, a member of the American Medical Association, twice president and three times mayor of Polo, Ill., for 27 years a member of the local school board, commissioned surgeon in both the Mexican and Civil wars, one of the oldest and most prominent practitioners in northern Illinois, died at his home in Polo April 18, from senile debility, after an illness of several weeks, aged 83.

J. T. Easley, M. D., Staunton, May 11, aged 51. Dr. Easley was prominently identified with the profession of Montgomery county for many years.

James J. Giltenan, M. D., Cincinnati College of Medicine and Surgery, 1867, of Chicago, for a long time connected with the Department of Health as medical inspector, died in Alexian Brothers' Hospital April 20, after an illness of several weeks, aged 62.

Thos. B. Gordon, M. D., Missouri Medical College, St. Louis, 1889, formerly of Mechanicsburg, Ill., died at the Illinois Central Hospital for the Insane, Jacksonville, April 10, after an illness of several years, aged 42.

Adolph Hoffman, M. D., Jenner Medical College, Chicago, 1896, died suddenly at his home in Oak Park, Ill., April 13, aged 78.

Louis F. Hollands, M. D., Wheaton, Feb. 21, aged 63.

James M. Hutchinson, M. D., Chicago Medical College, 1867, one of the three first internes to be appointed to Cook County Hospital, died at his home in Chicago May 6, from paresis, aged 62.

Pierre A. Marks, M. D., naval surgeon during the Civil war, Chicago, May 12, aged 61.

George W. Marshall, College of Physicians and Surgeons, Keokuk, Iowa, 1873, died at his home in Lima, Ill., April 28, from cerebral hemorrhage, after an illness of one week, aged 81.

Israel A. Powell, M. D., Years of Practice, Illinois, 1900, for more than 40 years a practitioner; a member of the legislature in 1871; collector of internal revenue for the Eleventh Illinois district under President Grant; one of the organizers of the first medical society in the Wabash valley, died at his home in Homer, Ill., May 1, from senile debility, after a long illness, aged 79.

George C. Raynor, M. D., New York University, New York, president of the Will County (Ill.) Medical Society for several terms, died at his home in Joliet, April 23, after an illness of three weeks, aged 79.

Herman Schroeder, M. D., Cleveland Medical College, 1850, died at his home in Bloomington, Ill., April 7, from heart disease, after an illness of five years, aged 84.

Courtney L. Smith, M. D., Rush Medical College, Chicago, 1879, died at his home in Aurora, Ill., from labioglossopharyngeal paralysis, April 15, after an illness of several months, aged 47.

Streeter, John Williams, M. D., Chicago, at Lake Forest, Sunday, June 4, age 64.

Dr. Streeter was for many years the most prominent homeopathic practitioner in Chicago and for a long time conducted the Streeter Hospital. He was connected with the Illinois National Guard and was a veteran of the Civil War.

Leander L. Tidball, M. D., University of Michigan Department of Medicine and Surgery, Ann Arbor, 1874, died suddenly at his home in Monticello, Ill., from heart disease May 19, aged 58.

WANTED.

Copies of the February, 1905, Illinois Medical Journal, 10 cts a copy will be paid if sent to the Editor, 522 Capitol ave., Springfield, Ill.

NEW INCORPORATIONS.

American Family Remedy company, Chicago; capital, $30,000. G. H. Bunge, E. E. Bunge, C. M. Donovan, incorporators.

Obstetrical Appliance company, Illinois; capital, $5,000; manufacture appliances; incorporators, I. C. Loose, John D. Mayes, R. D. Dugan.

The Illinois Medical Journal.

EDITORIAL OFFICE, 522 CAPITOL AVENUE, SPRINGFIELD.
Copy for advertisements must reach the editor's office by the 20th of the month in order to secure insertion.

PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

TREATMENT OF FRACTURED FEMUR THROUGH TROCHANTERS WITH AMBULATORY PNEUMATIC SPLINT.

By J. F. Presnell, M. D.

On the 10th of February I was called to see Mrs. Mathilda B. Carse, an elderly lady and a prominent resident of the city and founder of the Woman's Temple of Chicago, who had met with an accident and upon examination under anaesthesia, it was found that she had sustained a fracture of the right femur, through the trochanters. Consultation was called, my diagnosis confirmed, an da Buck's extension apparatus agreed upon. After several days trial of this arrangement, I became convinced that this form of treatment was not suitable to the case.

Mrs. Carse is a large woman, of athletic physique, who has always led an active life. To be confined in bed was so depressing and irksome to her nature, that it added to her suffering and also very greatly to the prognosis of the case. In view of this, some other form of treatment was absolutely necessary. The ambulatory pneumatic splint was brought to my notice and I determined to give it a trial. I was more than pleased, after getting the splint adjusted, to find that the shortening had been overcome and that the pain and discomfort was almost immediately relieved. We got her out of bed and stood her on the floor. Then she was put back to bed and had great comfort in being moved about in bed. The splint was opened, at first twice a day and later once a day, for massage, bathing and readjustment (the splint was not removed or taken off, but merely unbuckled).

At the end of the first week she was again taken out of bed and stood on her feet. This was repeated every week, until in the fourth week she began walking every day. At first she only got up once a day, after a few days it was extended to twice a day. After the eighth week I removed the hip-joint immobilizing attachment from the splint, after which she was able to get up with the aid of her nurse at any time she wanted to. The splint was dispensed with entirely at the end of the tenth week.

Frequent measurements were taken and it was a source of very great satisfaction to know that no shortening or deformity had taken place. During the daytime considerable traction was applied by simply adjusting the splint; this would be eased up at night, enabling her to rest easy. She made a journey to New York at the end of the twelfth week. At this time she was able to walk across the room without the crutches, but was not encouraged to do so. She used her crutches for a little time after this, but I do not know for exactly how long. She returned to the city in the fall, walking as straight as an arrow and without crutch, cane and without a particle of limp. In view of the foregoing facts, I am very favorably impressed with the treatment of this class of cases with the ambulatory pneumatic splint. Its perfect adaptability is such that it has a wide field of usefulness and it gives more comfort to the patient than any other splint or method I have used.

ANTIKAMNIA.

(Therapeutic Indications.)

Antikamnia is an American product, and conspicuous on this account and because of the immense popularity which it has achieved, it is today in greater use than any other of the synthetically produced antipyretics. The literature is voluminous, and clinical reports from prominent medical men in all parts of this country, with society proceedings and editorial references, attest its value in actual practice in an endless variety of diseases and symptomatic affections, such as the neuralgias, rheumatism, typhoid and other fevers, headaches, influenza, and particularly in the pains due to the irregularities of menstruation. Antikamnia has received more adverse criticism, of a certain spiteful kind, particularly directed against its origin—and becaus eof its success—than any other remedy known; critics have seemed personally aggrieved because of its American source, and that it did not emanate from the usual "color works," but their diatribes have fallen flat as do most persecutions and unreasonable and petty prejudices. The fact stands incontrovertible that Antikamnia has proved an excellent and reliable remedy, and when a physician is satisfie dwith the effects achieved he usually holds fast to the product. That is the secret and mainspring of the Antikamnia success. It is antipyretic, analgesic, and anodyne and the dose is fro m5 to 10 grains, in powder, tablets or in konseals taken with a swallow of water or wine. When prescribing Antikamnia, particularly in combination with other drugs, it is desirable to specify "in konseals," which are rice flour capsules, affording an unequalled vehicle for administering drugs of all kinds.

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Review of the Report of the Anaemia Commission Upon Hoopworm Disease in Porto Rico.

In February, 1904, the United States Government appointed a Commission for the study and treatment of anaemia in Porto Rico. This Commission has now submitted its report to the Governor of that Island. This report covers over 200 pages, and is printed both in the Spanish and in the English language.

The Commission was composed of experts in their special field, and the amount of work accomplished by these gentlemen, and the exceedingly painstaking manner in which they attended to every detail of the subject, stamps this inquiry as one of the most scientific and thorough investigations ever undertaken in the cause of public health.

As early as 1899, Dr. Bailey K. Ashford, who later became a member of this Commission, discovered the parasite **ankylostoma** in the feces of anaemic patients who were then crowding the field hospitals of Ponce. This was the first positive evidence that the disease in Porto Rico known as **anaemia,** was not the ordinary form, but **ankylostomiasis** or **uncinariasis,** produced by the parasite sucking the blood, and so prevalent did this disease become during the ensuing years that fully ninety per cent of the population became affected.

When the Commission appointed by the United States Government began its investigation in Porto Rico, it established a hospital consisting of tent wards, first at Bayamon, and later at Utuado, the most anaemic districts of the Island. The object of the treatment was first to remove the parasite, and then to cure the anaemia.

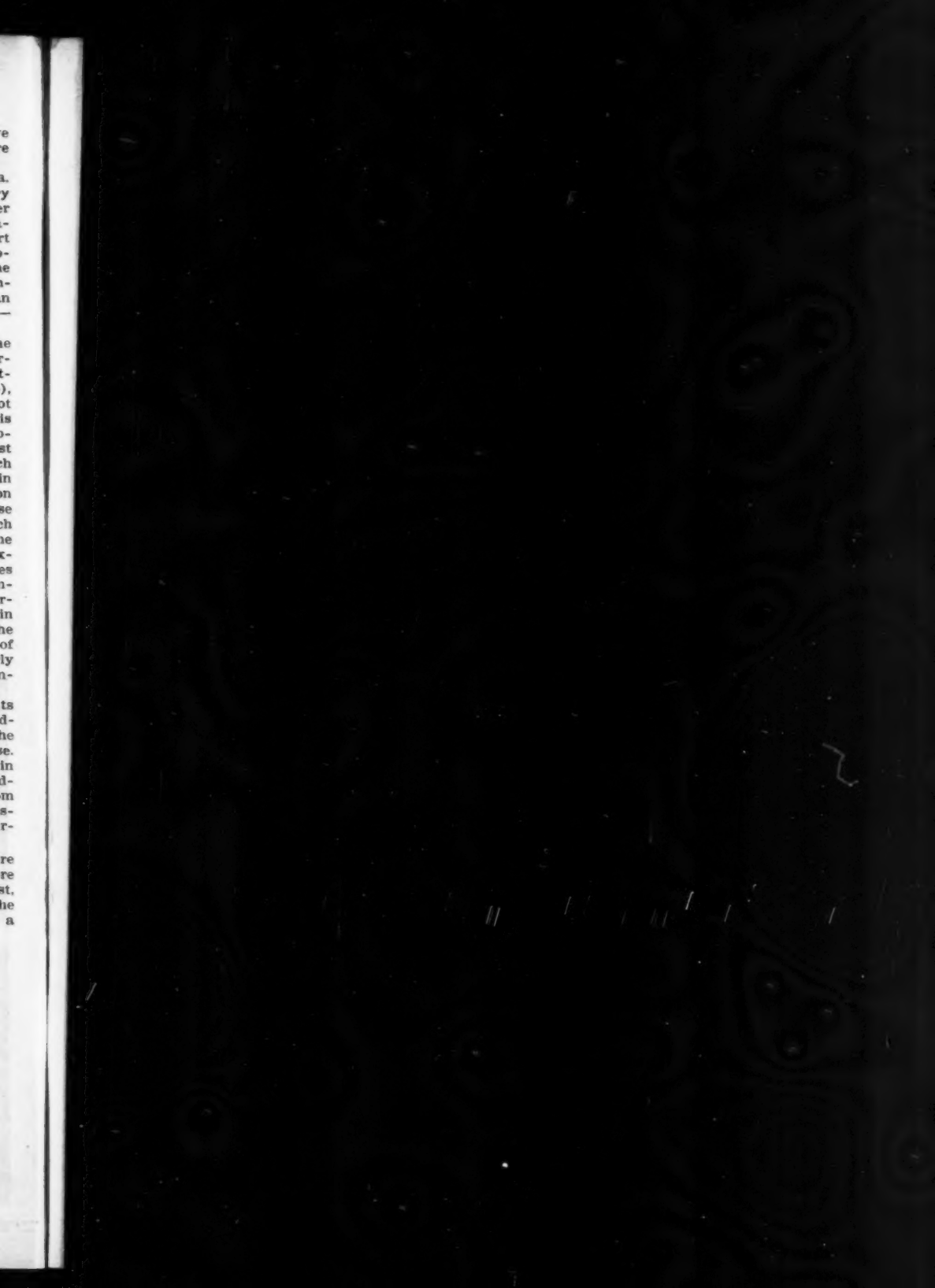
To kill the parasite, thymol, malefern, and betanaphthol were given, but the preference was for thymol. First the patient received a purge of salts, and then on the following day he was made to fast until one o'clock and then was given thymol in doses not exceeding four grammes; then another purge was given to remove the bodies of the parasite killed with the antiseptic. The purpose of the first purge was to clear the intestines of mucus, etc., so as to allow the thymol to act. The thymol and purge treatment was continued once a week until the feces showed no more **uncinaria.**

While thymol kills the parasite and the purge remove them from the intestines, also diminishing the amount of toxine in the system, these remedies only clear the field for a reconstructive process in the blood which is needful to restore to health the extremely anaemic patient.

Iron was given in the severe cases of anaemia. **Pepto-Mangan (Gude) was the only proprietary remedy reported by the Commission,** the other remedies used being pharmacopoecial preparations. That over eighteen pages of the report should be devoted to cases treated with Pepto-Mangan, proves the high regard in which the Commission held this preparation, and establishes the unrivaled clinical value of Pepto-Mangan (Gude) in one of the severest forms of anaemia—that of **uncinariasis,** or miner's anaemia.

In reading the report of the Commission, the unbiased character of the work stands out clearly, and yet the results obtained point so distinctly to the supremacy of Pepto-Mangan (Gude), that even if numerous other records were not available, proving the therapeutic value of this remedy, this report alone would suffice to establish Pepto-Mangan at once as the foremost haematinic known. The eighteen cases in which the Commission used Pepto-Mangan (Gude) in the treatment of **uncinariasis,** were selected on account of their extreme severity, and thus these cases represent the most crucial test to which any iron preparation can be subjected. The results obtained with this treatment were extremely gratifying. In nearly all of the cases we find such notes as these: "Excellent condition. Completely cured, etc.; while the difference between the low percentage of haemoglobin (some cases showing only 11 per cent) and the low count of the red cells at the beginning of treatment with Pepto-Mangan, and the nearly normal findings at the conclusion, affords convincing proof of the efficacy of the medication.

A noteworthy fact is that none of the patients showed any digestive disturbance after the administration of Pepto-Mangan, although the remedy was used for many weeks in each case. When we remember the extremely low state in which most of these patients were found on admission, and the fact that several suffered from gastro-intestinal symptoms incident to their disease, this detail is by no means to be underestimated.

The observations of the Commission were made under Government control, and therefore the report may be regarded as a supreme test, and the efficacy of Pepto-Mangan in one of the severest forms of anaemia is proved beyond a doubt.

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